



The Planning Inspectorate Yr Arolygiaeth Gynllunio

The Planning Act 2008

EAST ANGLIA TWO OFFSHORE WIND FARM

Examining Authority's Report
of Findings and Conclusions

and

Recommendation to the Secretary of State for
Business, Energy & Industrial Strategy

VOLUME 2

Examining Authority

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REPORT GUIDE

This report is divided into three volumes.

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The total Report comprises all three volumes, all of which need to be read to provide the basis for the findings and recommendations that have been made.

Each volume has its own table of contents, providing page references for the Chapters and Sections within it.

Relationship with the East Anglia ONE North Report

This Report was submitted simultaneously with another report relating to an application for development consent for the East Anglia ONE North offshore wind farm. That application was made and examined simultaneously with this application by an Examining Authority (ExA) comprised of the same members as the ExA responsible for this Examination and this Report. Each application was made separately. Each requires to be decided separately and on its own merits and so there are two separate Reports to the Secretary of State (SoS).

That being said, there are common elements to the Proposed Development in both cases. It follows that there are also common elements to the matters, issues, questions and evidence considered in both examinations and reported on in both Reports.

In common with a convention adopted by both ExAs during both Examinations:

- Where this Report contains a chapter or section that is unique to it and is not shared with the East Anglia ONE North Report, that chapter or section is marked with a blue icon  beside its title.
- Where there is material that is unique to this Report within a chapter or section that is otherwise broadly shared with the East Anglia ONE North Report, the relevant sentence, paragraph or body of text is marked with a blue highlight in the manner shown here.
- Where a chapter, section or text has no yellow icon or highlight, then its content is shared and can be found in the equivalent part of both reports.

Both Reports need to be read individually in order to obtain an understanding of the individual and shared findings that contribute towards the recommendations in both cases. However, it will assist readers to know that shared content is just that: identical in both reports.

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OFFSHORE ANALYSIS

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18. FINDINGS AND CONCLUSIONS IN RELATION TO OFFSHORE ORNITHOLOGY

18.1. INTRODUCTION

- 18.1.1. This chapter examines the impact of the Proposed Development on offshore ornithology. Specifically, it considers this in environmental impact assessment (EIA) terms for both the project alone and cumulatively. The impacts on ornithological features of European sites are considered in Chapter 24 of this Report.

18.2. POLICY CONSIDERATIONS

National Policy Statements

- 18.2.1. Section 5.3 of the Overarching National Policy Statement for Energy EN-1 (NPS EN-1), dated July 2011, sets out policy considerations that are of relevance for biodiversity in general. Paragraphs 2.6.58 to 2.6.71 of the National Policy Statement for Renewable Energy EN-3 (NPS EN-3) provide offshore wind-specific biodiversity policy which should inform decision-making on Proposed Developments.

- 18.2.2. Having specific regard to the ornithological impacts of offshore wind farm projects, paragraph 2.6.101 of NPS EN-3 states that:

"Offshore wind farms have the potential to impact on birds through:

- *Collisions with rotating blades;*
- *Direct habitat loss;*
- *Disturbance from construction activities such as the movement of construction/decommissioning vessels and piling;*
- *Displacement during the operational phase, resulting in loss of foraging/roosting area; and*
- *Impacts on bird flight times (i.e. barrier effect) and associated increased energy use by birds for commuting flights between roosting and foraging areas."*

- 18.2.3. Paragraphs 2.6.108 and 2.6.109 of NPS EN-3 also guide that *"Subject to other constraints, wind turbines should be laid out within a site, in a way that minimises collision risk, where the collision risk assessment shows there is a significant risk of collision. Construction vessels associated with offshore wind farms should, where practicable and compatible with operational requirements and navigational safety, avoid rafting seabirds during sensitive periods."*

UK Marine Policy Statement, 2011

- 18.2.4. As regards offshore ornithology, the Marine Policy Statement recognises at paragraph 3.3.24 that offshore wind energy developments have the potential to adversely affect certain bird species through displacement effects, barrier effects and collision risk effects.

East Inshore and East Offshore Marine Plans, April 2014

- 18.2.5. Policy BIO1 of the East Inshore and East Offshore Marine Plans (EIEOMP) states that: *"Appropriate weight should be attached to biodiversity, reflecting the need to protect biodiversity as a whole, taking into account of the best available evidence including on habitats and species that are protected or of conservation importance in the East marine plans and adjacent areas (marine, terrestrial)."*
- 18.2.6. In paragraph 215, the EIEOMP advises that when applying Policy BIO1, consideration should be given (amongst other things) to areas of ecological importance to highly mobile species including sea birds. This includes for example, essential foraging grounds or migratory routes.
- 18.2.7. EIEOMP Policy BIO2 guides that where appropriate, proposals for development should incorporate features that enhance biodiversity.

Development Plans and other local and regional policy

- 18.2.8. Given the mainly offshore nature of the matters within this chapter, the joint LIR from East Suffolk Council and Suffolk County Council [REP1-132] does not highlight any policies that it considers to be explicitly applicable to the question of effects on offshore ornithology. Nonetheless, and insofar as it relates to the onshore sites that might support sea bird populations, the joint LIR [REP1-132] refers to Policy SCLP10.1: Biodiversity and Geodiversity of the Suffolk Coastal Local Plan (September 2020). Policy SCLP10.1 states that all development should follow a sequential hierarchy of seeking firstly to avoid impacts on biodiversity, secondly to mitigate impacts and thirdly (as a last resort), to compensate for impacts.

18.3. THE APPLICANT'S CASE

Information submitted

- 18.3.1. Chapter 12 of the Environmental Statement (ES) [APP-060] assesses offshore ornithology. Also submitted to accompany the ES were Figure 12.1 Ornithology Survey Area and Designated Sites [APP-181], Appendix 12.1 Offshore Ornithology Consultation Responses [APP-469], Appendix 12.2 Ornithology Technical Appendix [APP-470] and Appendix 12.3 Information for the Cumulative Assessment [APP-471].
- 18.3.2. The following documents, which relate to offshore ornithology impacts at the EIA scale, were submitted by the Applicant either to accompany the application or during the Examination:
- Offshore Schedule of Mitigation [APP-574];
 - Offshore Ornithology Precaution Note [AS-041];
 - Offshore Ornithology Cumulative and In-Combination Collision Risk Assessment: Version 1 [REP1-047];

- Deadline 4 Offshore Ornithology Cumulative and In-Combination Collision Risk Update [REP4-042];
- Deadline 8 Offshore Ornithology Cumulative and In-Combination Collision Risk Update [REP8-035];
- Deadline 11 Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Update [REP11-027];
- Deadline 12 Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Update [REP12-066];
- Deadline 13 Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Update [REP13-019];
- Cumulative Auk Displacement and Seabird Assemblage Assessment of FFC SPA and Gannet Population Viability Analysis (PVA0 [REP2-006];
- Offshore In-Principle Monitoring Plan: Version 4 [REP8-027]

18.3.3. In addition, several documents were also submitted with a primary focus on Habitats Regulations Assessment but with some relevance to wider offshore ornithological matters. Where this is the case, the relevant documents are referenced within the text of this Chapter.

18.3.4. The latest versions of each of the above documents, as well as the ES, are listed as documents to be certified in Schedule 17 of the Applicant's final dDCO pursuant to Article 36 [REP12-013]. One exception to this is [REP13-019] which was not included in Schedule 17 of the Applicant's dDCO due to its submission at the final Examination deadline. However, as it is an update to a document already listed in Schedule 17 of the dDCO, it has been included in the ExA's rDCO.

18.3.5. Throughout the Examination the Applicant has also responded to comments made by Interested Parties such as Natural England, the Marine Management Organisation (MMO) and the Royal Society for the Protection of Birds (RSPB), and to the ExA's written questions and requests for further information.

Applicant's initial assessment of impacts

18.3.6. Pre-application consultation in respect of offshore ornithology included a series of Expert Topic Group (ETG) meetings which were constituted of the Applicant, MMO, NE and RSPB and are documented to have taken place in April 2017, March 2018, January 2019 and June 2019 as part of the Evidence Plan process [APP-053]. Table 12.2 of ES Chapter 12 [APP-060] describes the realistic worst-case scenarios for potential impacts of the Proposed Development upon offshore ornithological receptors.

Proposed development alone

18.3.7. In section 12.6 of ES Chapter 12 [APP-060], the Applicant sets out the potential impacts of the Proposed Development on offshore ornithology included within the EIA and agreed with NE and RSPB through the Evidence Plan process:

- In the construction phase:
 - Impact 1: disturbance/displacement; and

- Impact 2: indirect impacts through effects on habitats and prey species.
- In the operational phase:
 - Impact 3: disturbance and displacement from offshore infrastructure and due to increased vessel and helicopter activity;
 - Impact 4: collision risk; and
 - Impact 5: Indirect impacts through effects on habitats and prey species.
- In the decommissioning phase:
 - Impact 6: disturbance/displacement; and
 - Impact 7: indirect impacts through effects on habitats and prey species.

18.3.8. Table 12.52 of ES Chapter 12 [APP-060] sets out the Applicant's assessment of residual effects on offshore ornithology for the project alone. All of the predicted residual impacts are classified as "Negligible" except for the following:

- direct disturbance and displacement to red-throated diver (RTD) during the construction and operation stages which are classified as "Minor adverse", with a "Negligible to minor adverse" disturbance/displacement impact on RTD predicted for the decommissioning phase; and
- indirect effects on all species due to prey species displacement are predicted to have a "Negligible to minor adverse" residual impact for the construction, operation and decommissioning stages.

Cumulative effects

18.3.9. Section 12.7 of ES Chapter 12 [APP-060] presents the Applicant's approach to identifying and assessing potential cumulative effects on offshore ornithology. The Applicant's screening concluded (Table 12.36 of [APP-060]) that two potential effects, operational disturbance and displacement and operational collision risk, could give rise to potential cumulative impacts. A summary of the projects included in the Cumulative Impact Assessment (CIA) for ornithology is provided in Table 12.37 [APP-060].

18.3.10. Table 12.53 of ES Chapter 12 [APP-060] sets out the Applicant's assessment of the potential residual cumulative impacts for offshore ornithology as a result of the Proposed Development. Table 12.53 predicts the following residual impacts:

- "Minor adverse" cumulative residual impacts for RTD as a result of disturbance and displacement effects;
- "Minor adverse" cumulative residual impacts on gannet, kittiwake, lesser black-backed gull (LBBG) and great black-backed gull (GBBG) as a result of collision risk effects;
- "Negligible" cumulative residual impacts on herring gull as a result of collision risk effects; and

- “Negligible” cumulative residual impacts for gannet, razorbill and guillemot as a result of disturbance and displacement effects.

Transboundary effects

- 18.3.11. Section 12.8 of ES Chapter 12 [APP-060] acknowledges the potential for transboundary cumulative impacts, for example due to potential collisions and displacement at windfarms outside UK territorial waters. The ES (Section 12.8) states: “*However, the spatial scale and hence seabird reference populations sizes for a transboundary assessment would be much larger. Therefore, the inclusion of non-UK windfarms is highly likely to reduce the cumulative impact assessed for each species, therefore it is considered that the CIA provides a precautionary assessment of the likely impacts for each species*”.
- 18.3.12. In Table A12.1.1 of Appendix 12.1 of the ES [APP-469], there is evidence to indicate that NE agreed that transboundary impacts on non-UK ornithology receptors could be scoped out subject to consultation with Scottish Natural Heritage (SNH). From a statement in the same table, SNH appears to have confirmed this approach. Nevertheless, as noted in ES Chapter 12 [APP-060], due to pre-application comments made by Rijkswaterstaat (the Ministry of Infrastructure and Water Management), the Netherlands were retained in the Applicant’s Transboundary Impact Assessment in relation to offshore ornithology.

Changes made during the Examination

- 18.3.13. At Deadline 1, the Applicant submitted a Notice of Intent to Make Non-Material or Material Changes [REP1-039] which proposed the following changes to the Proposed Development with the potential to affect the consideration of offshore ornithological matters:
- Reduce the maximum wind turbine tip height from 300m to 282m above lowest astronomical tide (LAT); and
 - Increase the minimum wind turbine blade tip clearance above sea level (the air-draught) from 22m to 24m above mean high water springs (MHWS).
- 18.3.14. These changes were brought into effect through amendments to Requirement 3 of the dDCO [REP3-011].
- 18.3.15. At Deadline 3, an amendment to the offshore Order limits for the East Anglia ONE North wind farm was submitted to reduce the extent of the array area for that project and increase its distance from the boundary of the Outer Thames Estuary (OTE) Special Protection Area (SPA). This is relevant to the consideration of cumulative impacts of the Proposed Development on RTD, as discussed in more detail below.

18.4. PLANNING ISSUES

Summary position at close of Examination

Proposed Development alone

- 18.4.1. In [REP8-159] and [REP8-166], NE advised that it agreed with the Applicant's conclusions [APP-060] that there would be no significant adverse impacts from the Proposed Development alone for any of the offshore bird species considered to be at risk of collision mortalities, ie kittiwake, gannet, lesser black-backed gull (LBBG), herring gull and great black-backed gull (GBBG) or displacement mortalities ie gannet, razorbill, guillemot and RTD. NE also concluded in [REP8-159] that there would be no significant adverse impact for the project alone for gannet in terms of collisions and displacement. These agreements remained at the close of the Examination.
- 18.4.2. The final SOCG between the Applicant and RSPB [REP8-105] did not record any specific disagreements about project alone impacts at the EIA scale. The RSPB's outstanding concerns are dealt with in subsequent sections of this Chapter and in Chapter 24.

Proposed Development cumulatively with other plans and projects

- 18.4.3. At the start of the Examination both NE (for example in [RR-059] and [REP1-162]) and the RSPB in [RR-067] raised concerns about the potential cumulative collision risk and displacement impacts on the following species: kittiwake, LBBG, GBBG, herring gull, gannet, razorbill, guillemot and RTD.
- 18.4.4. By the close of the Examination the range of issues over which there was disagreement between the Applicant and IPs had narrowed. The final SoCGs between the Applicant and NE [REP8-110] and the Applicant and RSPB [REP8-105] were submitted some time before the end of the Examination and submissions relevant to offshore ornithology continued to be made up to the final deadline: D13.
- 18.4.5. During the latter part of the Examination, the Preliminary Environmental Information Report (PEIR) data for Hornsea Project Four (H4), Dudgeon Extension Project (DEP) and Sheringham Extension Project (SEP) became publicly available. In [REP8-159], NE stated that the Applicant's cumulative totals were based on figures derived from the PEIR for H4 and as both the figures and the methodologies used to produce them were subject to ongoing discussions, they have a degree of uncertainty. NE also maintained this stance regarding the Applicant's assessment of the contribution of DEP and SEP to cumulative totals.
- 18.4.6. NE's final position [REP13-048] on impacts at the EIA scale of the Proposed Development cumulatively with other plans and projects is summarised in Table 18.1, below:

Table 18.1: summary of NE's advice on cumulative offshore ornithology impacts

Species	Type of effect	Cumulative impact including H4, DEP and SEP	Cumulative impact excluding H4, DEP and SEP
Kittiwake	collision	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Lesser black-backed gull	collision	unable to rule out significant adverse impact	no significant adverse impact
Herring gull	collision	unable to rule out significant adverse impact	no significant adverse impact
Great black-backed gull	collision	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Gannet	collision	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Gannet	displacement	unable to rule out significant adverse impact	no significant adverse impact
Gannet	collision plus displacement	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Guillemot	displacement	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Razorbill	displacement	unable to rule out significant adverse impact	unable to rule out significant adverse impact
Red-throated diver	displacement	unable to rule out significant adverse impact	unable to rule out significant adverse impact

18.4.7. In [REP1-180], the RSPB stated that the cumulative EIA impacts of the Proposed Development would be significant in terms of collision risk in respect of the following species:

- Gannet;
- Kittiwake;
- GBBG; and,
- LBBG.

18.4.8. In terms of displacement effects, the RSPB considered that the cumulative EIA impacts of the Proposed Development would be significant for:

- RTD;
- Guillemot; and,
- Razorbill.

- 18.4.9. In its final SoCG with the Applicant, the RSPB [REP8-105] maintained its stance that there would be significant adverse impacts cumulatively for all the aforementioned species.
- 18.4.10. Underlying these closing positions were disagreements between the parties about elements of the Applicant's assessment (as set out in ES Chapter 12 [APP-060] and the updated material summarised in section 18.3, above). The remainder of this section discusses the main issues that arose during the Examination in relation to offshore ornithology, which fell into the following areas:
- Assessment methodology and assumptions;
 - Cumulative collision risk impacts;
 - Cumulative displacement impacts;
 - Monitoring effects on offshore ornithology; and
 - Transboundary effects.
- 18.4.11. Many of these issues are also relevant to the consideration of effects on European Sites; this section should be read in conjunction with Chapter 24 (Findings and Conclusions in relation to Habitats Regulations Assessment).

Assessment methodology and assumptions

- 18.4.12. The Examination heard several matters relating to the Applicant's methodology for assessing impacts on offshore ornithology. It is evident that both before and during the Examination, these matters were discussed at meetings and workshops between the Applicant, NE and RSPB (see Table 2.1 of both [REP8-110] and [REP8-105]). They were also the subject of written submissions to the Examination and at issue specific hearings.
- 18.4.13. The main methodological themes during the Examination were:
- Collision Risk Modelling (CRM) parameters;
 - Calculation of cumulative collision risk and displacement impacts;
 - Use of consented versus 'as built' project parameters in cumulative assessment; and
 - Other alleged aspects of methodological over-precaution.
- 18.4.14. These matters are considered in turn below.

Collision Risk Modelling parameters

- 18.4.15. Early in the Examination, NE had raised concerns about the parameters for the CRM submitted by the Applicant and advocated a more range-based approach to consideration of CRM impacts, for example in [REP1-169]. However, Table 2.2 of the final SoCG with NE on offshore ornithology [REP8-110] documents agreement that the method for assessing seabird collision risk is appropriate. As well as the NE recommended nocturnal activity rates the Applicant also presented what it considers to be evidence-based rates. There was agreement between the Applicant and NE in [REP8-110] over the use of generic seabird flight height estimates in CRM, the use of the deterministic Band option 2

method for assessing seabird collision risk and that the method used to assign unidentified birds to species is appropriate.

Calculation of cumulative collision risk and displacement impacts

- 18.4.16. At deadlines throughout the Examination, the Applicant provided an Offshore Ornithology Cumulative and In-Combination Update [REP1-047] [REP4-042] [REP8-035] [REP11-027] [REP12-066] [REP13-019]. Updates were necessary to reflect ongoing discussion about which projects to include in the assessment and which figures for each project should be used. The updates also sought to reflect the changing status of other projects, such as those in the pre-application stage and the quashing of the decision to make the Norfolk Vanguard DCO.
- 18.4.17. In [REP12-090] NE stated that it broadly agreed with the figures presented in the Applicant's updated Offshore Ornithology Cumulative and In-Combination Collision Risk Update at D11 [REP11-027]. The Applicant provided updated cumulative and in-combination figures in its D12 submission [REP12-066] which took into account updated figures from Orsted (and accepted by NE) in respect of Hornsea Project Three (H3) and also those for East Anglia THREE that were agreed at Deadline 8 of the Norfolk Boreas Examination. These updates were welcomed by NE in its final submission on this matter, with agreement for the figures presented in Tables 1 (gannet), 2 (kittiwake), 3 (LBBG), 7 (guillemot) and 8 (razorbill) (see section 5 of [REP13-048]).
- 18.4.18. In that submission, NE also noted discrepancies in the Applicant's calculation of cumulative totals for herring gull, GBBG and gannet (see paragraphs 22-24 of [REP13-048]). The discrepancies highlighted by NE were as follows:
- For herring gull, Table 4 of [REP12-066] attributes 19 collisions per annum to the East Anglia ONE project, whereas 28 collisions per annum would reflect the consented 150 turbine project;
 - For GBBG (Table 5 of [REP12-066]), the annual contribution of H4 to the cumulative collision total should be 16.6 rather than 13.6 per annum, to account for 3 collisions in the breeding seasons and 13.6 collisions in the non-breeding season; and
 - For gannet displacement abundance, Table 6 includes a minor difference of 3 more birds than indicated by NE's figures.
- 18.4.19. The latest version of the Applicant's cumulative and in-combination update [REP13-019] does not address these discrepancies and since NE's comments were submitted at the final deadline, there was not an opportunity for the Applicant to respond to them.
- 18.4.20. Notwithstanding this, following advice from NE [REP12-090], in [REP13-019] the Applicant provided cumulative and in-combination figures for all projects up to and including the Proposed Development and the other East Anglia application but not including H4, DEP and SEP, and then also provided figures for all projects including H4, DEP and SEP.

- 18.4.21. As the Applicant's final Offshore Ornithology Cumulative and In-Combination Collision Risk Update was only provided at D13, neither NE nor the RSPB have had the opportunity to comment on it, despite it being revised as a response to NE's D11 and D12 submissions.

Cumulative impact assessment and ornithological 'headroom'

- 18.4.22. During the course of the Examination, the Applicant and IPs referred to applications for non-material changes (NMCs) to made DCOs which would have the effect of reducing the maximum number of turbines that could be built compared to the consented schemes and changing other parameters of those projects, most notably raising draught heights of turbine blades above sea level. These submissions were principally made in relation to proposed changes to the made Development Consent Orders (DCOs) for the East Anglia ONE (EA1) and East Anglia THREE (EA3) offshore wind farm (OWF) projects.
- 18.4.23. The debate in this Examination has centred around the question of whether it is appropriate for the cumulative (and in-combination) assessment for the Proposed Development to take account of the reduced parameters for the other OWF projects. Doing so could have the potential to lower predicted cumulative impacts from the Proposed Development, most notably in terms of bird collision mortalities. In considering this question, it has been important to draw a distinction between the different status of other consented OWFs, including:
- projects for which a NMC has been approved by the SoS with the effect of amending the project parameters of the original DCO (such as EA3);
 - projects for which an NMC to amend project parameters on a DCO has been proposed but not yet approved by the SoS; and,
 - OWFs that have been constructed and commissioned with fewer turbines / greater draught heights than the maximum permitted on the face of the DCO but where there has not (yet) been an amendment to the project parameters on the DCO (such as EA1).
- 18.4.24. The Applicant [section 2.3 of AS-041] cited research (Trinder, 2017) indicating that the difference between the worst-case scenario for the number of turbines assessed in the ES based on the 'Rochdale envelope' parameters versus the number that have actually been constructed may be 40% fewer turbines for built-out offshore wind farm projects. Consequently, the Applicant argues, cumulative collision estimates are unrealistically over-precautionary [AS-041]. The Applicant pointed to the example of EA1 OWF, which it stated, "*was originally assessed on the basis of 333 wind turbines, consented on the basis of up to 240 where HVDC transmission infrastructure is used and 150 where HVAC technology is deployed and has been constructed with 102. Thus, the final windfarm will have less than one third the original number of proposed (and assessed) wind turbines*" (paragraph 37 of [AS-041]).
- 18.4.25. NE acknowledged in [REP1-169] that "*the use of collision risk estimates based on worst case scenarios may lead to potential over-estimate of the total cumulative or in-combination assessments in terms of both EIA and*

HRA". However, NE also cited [REP1-169] the example of the Lincs offshore wind farm, where it stated that predicted mortalities increased after application of the correction factor used when calculating the impacts of 'as built' development. NE noted that this is a highly complex issue of relevance across the wider OWF industry and that there is not currently an agreed way forward [REP1-169].

- 18.4.26. NE made several representations on this theme during the Examination, including [REP5-087] and the provision of a consultation response letter, dated 1 June 2021, for the EA1 NMC application [REP11-121] which it presented as generic advice. NE's final position on this matter was set out in [REP13-048]. NE argued that there is no legal time limit for making NMCs to DCOs, and there would therefore be nothing preventing a developer from making future NMCs to the DCO as long as these did not extend beyond the Rochdale envelope parameters assessed in the original ES for the original DCO [REP11-121]. In summary, NE's concern was that projects could keep on being amended up to the limit of the original Rochdale Envelope and consequently it is that limit which should form the basis for cumulative and in-combination assessment purposes.
- 18.4.27. In R17QF.2 [PD-052], the ExA asked the Applicant and NE to comment on specific aspects of the arguments that had been put forward by NE in [REP11-121]. In its response [REP12-094], NE expressed a view that when a DCO is changed under paragraph 2 of Schedule 6 of the PA2008, the original DCO continues in force and that there is no legal reason why a subsequent change under the same provision could not reverse the earlier change. Consequently, NE considered that the worst-case scenario or maximum parameters in the original DCO should continue to be used for cumulative and in-combination assessments, even if a NMC to a DCO is authorised by the SoS.
- 18.4.28. In its response to the ExA's R17 question [REP12-056], the Applicant took an opposing view to that expressed by NE, arguing that a NMC is a legally robust mechanism in which to release 'headroom'. The Applicant contended: *"a NMC must be approved by the Secretary of State and results in a statutory instrument being granted to amend the original Order and so following a NMC, the consented parameters become those set out in the amended DCO. To continue to refer to the original consented parameters which no longer form part of the DCO that is in force is flawed and irrational"*.
- 18.4.29. Moreover, the Applicant argued that the proposition that a developer could extend a constructed and commissioned OWF via NMC applications up to the limit of the Rochdale Envelope of the original DCO is not realistic from a technical or commercial perspective. It cited reasons related to:
- the competitive nature of the Contracts for Difference scheme which results in OWFs that are highly optimised for their specific site conditions, meaning that small scale extension of a constructed project would likely be on a sub-optimal part of the site and therefore be of questionable viability;

- cost-driven optimisation of offshore and onshore transmission assets meaning that spare capacity for additional WTGs may not be available after the scheme design has been fixed;
- Offshore Transmission Owner (OFTO) rules meaning that any extension would be likely to require new transmission infrastructure which could render small extensions economically unviable;
- practical challenges around the validity of the original impact assessment if it was undertaken on the basis of a single construction period and construction of a second, later extension is proposed; and,
- the established system of refining seabed lease agreements with The Crown Estate (TCE) post-construction through a 'deed of surrender', meaning that any extension could require new seabed rights to be sought from TCE.

18.4.30. In [REP13-048], NE stated that the Applicant's response to R17QF.2 [REP12-056] did not change its position. NE referred to practice in Scotland, where consents are drafted to secure final parameters on submission of detailed plans. NE acknowledged the desirability of establishing environmental 'headroom' in order to facilitate further offshore wind development and expressed an appetite for engagement with the Department for Business, Energy and Industrial Strategy (BEIS) on the matter.

18.4.31. In [REP13-015], the Applicant reiterated its disagreement with NE's position on this matter and this issue remained in contention at the end of the Examination. Notwithstanding this, the Applicant stated that it had revised its cumulative and in-combination collision risk update [REP12-066] to reflect estimates of the contribution of EA3 derived from the Norfolk Boreas Deadline 8 position, despite the authorisation of the NMC for EA3.

Other alleged aspects of methodological over-precaution

18.4.32. An important aspect of the Applicant's argument was that the bird mortalities predicted to arise from the Proposed Development as a result of either collision risk or displacement effects reflected a significant degree of over-precaution. The Applicant contended that this would be particularly the case using NE's preferred assessment methodology and parameters. In its Offshore Ornithology Precaution Note [AS-041], the Applicant cited what it considered to be several uncertainties and worst-case scenarios for individual projects which were then aggregated in cumulative assessments, which the Applicant argued resulted in the overall impact magnitude being a substantial over-estimate.

18.4.33. In addition to the headroom issue discussed earlier in this Chapter, the Applicant also argued [AS-041] that there were several methodological assumptions that were over-precautionary when taken for a project alone and that these were magnified further when considered for multiple projects in cumulative and in-combination assessments. In summary, the Applicant in [AS-041] cited the following areas of what it considered to be methodological over-precaution:

- Seasonal or yearly variations in survey data used to inform the baseline population estimates combined with the use of the upper 95% confidence interval (CI) can give rise to unrepresentative worst-case estimates of the baseline population;
- Rates of nocturnal activity for certain species, e.g. gulls, can be over-estimated;
- Precaution in CRM avoidance rates;
- Potential over-precaution in both the displacement rates and the ensuing predicted rates of mortality;
- Potential over-estimation of the area of displacement due to assessments treating all of the array area plus a buffer as the displacement area, despite turbines rarely covering the full extent of the Order limits;
- Displacement effects for different seasons being summed to give an annual effect, which can entail double counting; and,
- The use of more precautionary density independent (as opposed to density dependent) assumptions for population modelling, which the Applicant contended over-estimates the population effects of increases in mortality since population growth is assumed to be exponential.

18.4.34. In [Tables 4.1 and 4.3](#) of [AS-041], the Applicant provided a comparison of collision mortality estimates for kittiwake and gannet incorporating what is considered to be realistic nocturnal activity and avoidance rates. For the project alone using the Applicant's preferred rates and at the annual upper 95% CI, the collision mortality estimate would reduce from [86.65 to 66.63](#) for kittiwake and [74.3 to 26.18](#) for gannet. The Applicant concluded in [AS-041] that: " *...consideration must be given to the many sources of precaution and focus upon a single headline mortality figure is misplaced*".

18.4.35. NE responded to these arguments in [REP1-169]. In summary, NE made the case that the level of precaution inherent in the methodological assumptions is not excessive and is justified, partly due to the uncertainties surrounding the data. NE considered that the distribution of birds in the marine environment appears to be highly variable between days, seasons and years. NE noted [REP1-169] that the SNCBs were in the process of reviewing the evidence on avoidance rates that had been cited by the Applicant¹ to consider its applicability to SNCB advice on CRM but that work was not yet complete.

18.4.36. NE also stated that it takes a range-based approach to its consideration of impacts, particularly when there is a significant degree of uncertainty. NE noted that the evidence for auk displacement was variable and in [REP1-169] cited studies that have found a strong displacement effect for offshore wind farms whilst other studies have found little or no displacement effects. Also, NE argued that as there was very little information about the consequences of displacement for individuals,

¹ For example, the Applicant has cited Bowgen and Cook, 2018, and Skov *et al.*, 2018.

there was no evidence to suggest that a 10% mortality rate was precautionary.

- 18.4.37. This was an area of outstanding disagreement at the end of Examination. Notwithstanding this in-principle disagreement, the Applicant's final cumulative collision risk and displacement abundance tables [REP13-019] followed NE's advice with respect to the level of precaution to be applied in calculating totals.

Cumulative collision risk impacts

- 18.4.38. Cumulative collision risk impacts were subject to extensive debate during the Examination. This section takes the following structure:

- The Applicant's increase in turbine blade air-draught height;
- Kittiwake cumulative collision impacts;
- LBBG cumulative collision impacts;
- Herring gull cumulative collision impacts;
- Great black-backed gull cumulative collision impacts; and
- Gannet cumulative collision impacts.

Increase in turbine blade air-draught height

- 18.4.39. The non-material change introduced by the Applicant in [REP1-039] which had the effect of increasing the minimum air-draught height of turbine blades from 22m to 24m above MHWS was presented as further mitigation for the bird collision risk impacts of the Proposed Development. The change was acknowledged by the ExA in [PD-020], where the ExA noted its agreement that the changes were non-material and stated: *"no formal acceptance, notice, consultation or related process is required before the ExAs commence examination of these proposed changes, which the ExAs will do with immediate effect, alongside the Applications as submitted"*.
- 18.4.40. The decision to increase minimum air-draught height was welcomed by NE [REP2-052]. However, both NE and RSPB questioned why the Applicant could not achieve a greater increase in air-draught height. NE [REP2-052] was clear that *"proposals should include this measure in order to minimise their contributions to the cumulative/in-combination collision totals by as much as is possible"*, pointing to the Norfolk Vanguard and Norfolk Boreas OWFs, where the applicants had committed to draught heights of 30m and 35m, depending on the generating capacity of the individual turbines.
- 18.4.41. In response to this, and to questioning at ISH1 ([EV-034b], minutes 53:00-56:00), the Applicant stated that because the southern North Sea is not uniform in terms of water depth, geology and other constraints such as archaeology, the parameters that are achievable for one project might not be suitable for another. In its Offshore Commitments document [REP3-073], the Applicant made the case that the offshore Order limits for the Proposed Development are more constrained than for the other projects cited by NE, stating that the Proposed Development was seeking to generate **4.2MW per km²**, compared with capacity

densities of between approximately 2.4 and 3.4MW per km² for projects such as Norfolk Vanguard, Norfolk Boreas and H3 OWFs. These statistics were not independently confirmed but no evidence was presented to the Examination to suggest that they were not to be relied upon.

- 18.4.42. In Section 2.1.1 of [REP3-073], the Applicant explained that it had considered increases in draught height up to 35m and found that a 30m air draught height would be the practical limit of wind turbine installation on the site based on the installation vessels currently available but did concede that this could change in the future should a new class of installation vessels come into service.
- 18.4.43. In addition to the installation challenges were the engineering considerations of increasing air draught, which the Applicant noted has implications for the relationship between turbine tower weight and foundation type. This, the Applicant submitted, was compounded by a lack of detailed site investigation data and the relatively deep nature of the array area site, with 85% of the array area lying in water depths of 40-67m below Lowest Astronomical Tide (LAT) [REP3-073].
- 18.4.44. The Applicant concluded that *"given the water depths, air draught increases above 24m were found to carry significant cost and, subject to ground conditions, restrict flexibility in foundation options by reducing the ability to deploy monopiles and increasing the need to rely on jacket foundations with resulting impacts on commercial viability"* [REP3-073]. Table 4.8 of the Applicant's final HRA Derogations Case [REP12-059] provided further justification for this position, citing specific site conditions (water depth, seabed geology and seabed morphology) and layout constraints (occurrence of archaeology and reefs). This justification was supplemented by the Applicant's response [REP6-061] to further questioning from the ExA (ExQ2.2.3 and 2.2.7 of [PD-030]).
- 18.4.45. NE did not express satisfaction with the Applicant's justification for limiting draught height increases to 24m. Consideration of further increases as an alternative to the project design is set out in Chapter 24 of this Report.
- 18.4.46. The RSPB in [REP8-105] welcomed the increase in air draught to 24m and agreed that it would help reduce predicted collision risk. However, the RSPB's view was that the increase would not eliminate the predicted collision risk and it therefore encouraged any further increases in air draught that could be achieved to further reduce the impacts. The RSPB did not specifically comment on the Applicant's justification as to why increases beyond 24m were not considered to be achievable.

Kittiwake cumulative collision impacts

- 18.4.47. This matter is also considered in more detail in Chapter 24 of this Report and that includes an assessment of the compensation measures that the Applicant has proposed for the kittiwake population of the Flamborough and Filey Coast (FFC) SPA.

- 18.4.48. In terms of EIA considerations, at the close of the Examination disagreement remained between the Applicant and NE and the RSPB over the cumulative impacts on kittiwake due to collision risk. As reported above, the Applicant's cumulative and in-combination collision risk assessment was updated several times during the Examination in an effort to address the concerns of IPs and questions from the ExA ([REP1-047] [REP4-042] [REP8-035] [REP11-027] [REP12-066] [REP13-019]). Whilst these updates helped to reduce the extent of uncommon ground between the parties on cumulative kittiwake effects, they did not resolve matters to the satisfaction of NE or RSPB.
- 18.4.49. In its final deadline submissions [REP13-048], NE stated that it was unable to rule out a significant adverse impact on kittiwake from cumulative collision mortality at an EIA scale irrespective of whether the anticipated future applications for H4, Dudgeon Extension Project and Sheringham Shoal Extension Project were included in or excluded from the cumulative total. Cumulative kittiwake collision impacts are also marked as a "*Not agreed*" matter in the final SoCG with the RSPB [REP8-105].
- 18.4.50. The predicted figures for cumulative kittiwake mortality were not in dispute to any significant degree, with NE broadly agreeing with the Applicant's cumulative kittiwake estimates by the end of Examination [REP12-090]. The nub of the disagreement related to the Applicant's conclusion that this quantum of collision mortality would equate to a low magnitude of effect on a species of low to medium sensitivity and therefore that the resultant impact on kittiwake would be of minor adverse significance [APP-060]. This conclusion was predicated on the high degree of over-precaution that the Applicant argues exists for cumulative assessments due to the methodological assumptions advised by NE and discussed earlier in this Chapter and the consideration of predicted changes against the backdrop of natural fluctuation in kittiwake populations that have occurred.
- 18.4.51. NE analysis at D12 ([REP12-090], building on analysis at D8 in Section 3.1.2 of [REP8-159]) stated that the additional cumulative collision mortality for kittiwake would be 4,015 birds per annum for all projects excluding H4, DEP and SEP and 4,243 birds per annum for all projects including H4, DEP and SEP. Since these figures would exceed 1% of the baseline mortality of the North Sea biologically defined minimum population scale (BDMPS) (being 3.10% excluding H4, DEP and SEP and 3.28% including those projects), NE considered that the effect would be significant.
- 18.4.52. Furthermore, using the density independent PVA models undertaken by Norfolk Boreas, NE advised [REP12-090] that the BDMPS kittiwake population after 30 years would be 16.65 to 17.32% lower than it would have been in the absence of this additional mortality, and the population growth rate would be reduced by 0.59-0.61%. At the biogeographic scale, the population after 30 years would be 2.89 to 3.03% lower than in the absence of the additional mortality and the population growth rate would be reduced by 0.1% [REP12-090]. On the basis of these predicted

reduction, together with a conservation assessment that takes account of kittiwake's 'vulnerable' status² following severe population declines in Europe and the UK, NE took the view that there was the potential for significant adverse effects on kittiwake at the North Sea population scale [REP12-090].

18.4.53. The Applicant maintained the view (Section 10.3.1.2 of [REP9-016]), that over the last 50 years the kittiwake population has fluctuated by considerably larger amounts than those reduction predictions, for example +24% between 1969 to 1985 and -50% between 2000 to 2018, and therefore that the predicted changes in population growth rate *"across a longer (30 year) period against a background of natural changes up to two orders of magnitude larger would almost certainly be undetectable"*. The Applicant stated that this, together with an overly precautionary approach to the assessment, led it to disagree with NE's view that cumulative kittiwake collision mortality would result in a significant adverse impact.

18.4.54. This matter remained in contention at the close of the Examination.

Lesser black-backed gull cumulative collision impacts

18.4.55. By the end of the Examination, it was common ground between NE and the Applicant that the total predicted cumulative LBBG collisions would be 530 birds per annum excluding H4, DEP and SEP or 533 birds including H4, DEP and SEP, of which **5 birds (4.7 rounded up)** could be attributed to the Proposed Development. The Applicant's final position was that this would result in no significant cumulative impact for LBBG, but rather that impacts would be negligible to minor adverse cumulatively [REP9-016].

18.4.56. NE was clear that the agreed cumulative collision totals for LBBG exceed 1% of baseline mortality of the North Sea BDMPS, being 2.01% for total projects excluding H4, DEP and SEP and 2.02% including H4, DEP and SEP [REP12-090]. Using the density independent PVA model undertaken by Norfolk Boreas, NE advised that after 30 years, the BDMPS population of LBBG will be 9.65% lower than it would have been in the absence of the additional mortality and the population growth rate would be reduced by 0.33% [REP12-090]. The Applicant noted that the cumulative impact would not increase the background mortality rate by more than 1% of the biogeographic population, meaning that the change in population as a result of cumulative collisions would not be detectable against natural changes at this scale [REP9-016].

18.4.57. NE took the view that a 0.3% reduction in the annual population growth rate of the BDMPS due to cumulative collisions would not be significant for a population growing at 1 to 2% per annum³ [REP12-090]. However,

² Kittiwake are currently listed as 'Vulnerable' to global extinction on the IUCN Red List [REP12-090].

³ As cited in [REP12-090] between the 1969-1970 and 1998-2002 censuses the UK LBBG population increased by 81%, which equates to an average annual growth rate of approximately 1.8% per annum.

NE also highlighted that it is not known what the growth rate of the UK LBBG population will be over the next 25 to 30 years and that there is uncertainty in the predicted collision figures and limited evidence around baseline mortality rates.

- 18.4.58. At the close of the Examination, NE's position, as reported in [REP12-090] and [REP13-048], was that there would be no cumulative significant adverse impact for LBBG collision mortalities if H4, DEP and SEP were excluded from the cumulative totals. However, if H4, DEP and SEP were included then NE considered that it would be unable to rule out significant adverse impact for LBBG. NE explained that: "*due to the inevitable uncertainty associated with the figures for Hornsea 4, DEP and SEP being from the PEIRs and are hence subject to change, Natural England therefore is not in a position to advise that significant impact can be ruled out for LBBG for cumulative collision impacts when the Hornsea 4, DEP and SEP projects are included in the cumulative totals*" [REP12-090].
- 18.4.59. The Applicant maintained its position that there would be no significant cumulative collision impact for LBBG, either including or excluding H4, DEP and SEP, due to the small predicted reduction in annual population growth and in light of the level of precaution inherent in the collision estimates [REP9-016] [REP13-015]. The Applicant contended that since the contribution of the Proposed Development to the cumulative collision total for LBBG was small and was not predicted to result in population declines, the effect would not be significant.
- 18.4.60. This matter remained unagreed at the end of the Examination.

Herring gull cumulative collision impacts

- 18.4.61. At D12 [REP12-090], NE advised that cumulative annual collision mortality for herring gull would be 763 birds excluding H4, DEP and SEP and 766 birds for all projects including H4, DEP and SEP. However, these figures were slightly higher than those stated by the Applicant at D13 [REP13-019], which predicted cumulative annual collision mortality of 754 birds excluding H4, DEP and SEP and 757 birds including those projects. In its response to NE's D12 figures, the Applicant did not provide an explicit explanation for the difference [REP13-015]. Total cumulative figures aside, the Applicant and NE agreed that including H4, DEP and SEP in the cumulative collision totals would add 3 herring gull mortalities per annum.
- 18.4.62. NE advised that the predicted contribution of the Proposed Development to the cumulative collision mortality would be 0.5 herring gull per annum [REP12-090]. NE noted that there has been a 31% decline in the population of herring gull in the UK since 1999-2011 and it is classified as 'Near Threatened' on the IUCN **Error! Bookmark not defined.**⁴ Red list

⁴ International Union for Conservation of Nature

as well as Red listed on BoCC4⁵. Nonetheless, NE concluded that cumulative collision totals excluding H4, DEP and SEP equate to less than 1% of baseline mortality of both the largest BDMPS and the biogeographic population. Consequently, NE advised that the Proposed Development cumulatively with other plans and projects excluding H4, DEP and SEP would not give rise to significant cumulative collision risk impact for herring gull.

18.4.63. However, NE advised [REP12-090] that due to the inevitable uncertainty associated with the figures for H4, DEP and SEP, it was not in a position to be able to rule out a significant adverse impact cumulatively on herring gull if H4, DEP and SEP are included in the cumulative totals. NE maintained this position in its final submission to the Examination [REP13-048]. In its final submissions to the Examination [REP13-015], the Applicant stated that it was unclear why NE's position had changed in the late stages of the Examination to advise that H4 would contribute to a significant cumulative effect on herring gull.

18.4.64. This matter remained unresolved at the close of the Examination.

Great black-backed gull cumulative collision impacts

18.4.65. In its final Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Update [REP13-019], the total predicted cumulative GBBG collision mortalities were 979.4 excluding the H4, DEP and SEP projects and 1000.1 if H4, DEP and SEP were included. The Proposed Development was predicted to contribute 6.9 birds per annum to this cumulative collision total.

18.4.66. In [REP12-090] NE stated that its calculated cumulative collision totals for GBBG were 979 excluding H4, DEP and SEP and 1,003 including them. The difference in the figures provided by the Applicant and NE for cumulative total including H4, DEP and SEP appears to be explained by an error in the Applicant's presentation of the annual contribution of H4 (13.6 rather than 16.6 birds per annum), which is covered elsewhere in this Chapter.

18.4.67. NE advised [REP12-090] that this would equate to 5.79% of baseline mortality of the BDMPS and 2.5% of baseline mortality of the biogeographic population for GBBG. Using the PVA metrics that were undertaken by Norfolk Boreas, NE calculated that the BDMPS population of GBBG after 30 years would be 30.7% to 33.23% lower than it would have been without the additional cumulative mortality using the density independent model, or 25.54% to 27.75% lower using the density dependent model. The population growth rate would be reduced by 1.18 % to 1.3% using the density independent model, or 0.95% to 1.04% using the density dependent model [REP12-090].

⁵ Birds of Conservation Concern 4: the Red List for Birds (Eaton *et al*, December 2015)

- 18.4.68. For the biogeographic population NE calculated in [REP12-090] that after 30 years the GBBG population would be 12.36% to 14.48% lower than it would have been using the density independent model and 10.56% to 11.55% lower using the density dependent model. This would correspond to a 0.46% to 0.5% reduction assuming density independence or a 0.36% to 0.4% using density dependence.
- 18.4.69. NE noted [REP12-090] that the GBBG population is classified as “*Least Concern*” of global extinction by the IUCN and is stable across its range but is Amber listed at the UK level due to moderate declines in both the breeding and non-breeding populations. Taking all of this into account, NE contended that a significant adverse effect could not be ruled out, irrespective of whether H4, DEP and SEP are included in the cumulative totals. The RSPB also stated a view in [RR-067] that the cumulative collision risk impacts on GBBG would be significant, but this matter was not restated in its subsequent submissions.
- 18.4.70. Responding to NE’s advice, the Applicant stressed that the predicted mortalities were predicated on layers of methodological precaution and argued that the negative effects on population growth rates were small and not predicted to result in population declines [REP9-016] [REP13-015]. In [REP9-016] the Applicant noted the IUCN classification and stated that the GBBG population had “*remained relatively stable since 1970*”. Consequently, the Applicant contended that the maximum change in the growth rate of 1.3% was not likely to result in any significant or detectable effects on BDMPS or biogeographic populations of GBBG.
- 18.4.71. Furthermore, the Applicant argued that collision predictions for GBBG are skewed towards the winter months when birds from Norway and Russia are present. The Applicant therefore made the case that the UK population trend is less relevant to collision risk assessment as that reflects UK breeding birds, which comprise less than one third of the North Sea wintering population. Taking all of this into account, the Applicant submitted that the level of predicted cumulative collisions would not be sufficient to result in a significant adverse impact at the EIA scale, maintaining its overall assessment of negligible to minor adverse significance on GBBG [REP9-016].
- 18.4.72. There was no agreement reached on this matter by the end of the Examination.

Gannet cumulative collision impacts

- 18.4.73. NE in [REP12-090] advised cumulative collision totals for gannet of 2,940 birds per annum for all projects excluding H4, DEP and SEP, and 3,012 birds per annum including these projects. These figures were reflected in the Applicant’s final cumulative collision risk update [REP13-019].
- 18.4.74. NE advised that, counting in all projects including H4, DEP and SEP, this would represent 3.46% of the baseline mortality for the BDMPS and 1.34% of baseline mortality for the biogeographic population. It would represent 3.37% and 1.3% respectively of baseline mortality if H4, DEP

and SEP were excluded. Using the PVA models undertaken by Norfolk Boreas, NE calculated that the BDMPS population would be 21.33% to 21.95% lower than it would have been using the density independent model and 21.15% to 21.76% lower using the density dependent model [REP12-090].

- 18.4.75. The estimated contribution of the Proposed Development to the cumulative collision mortalities for gannet was 39.6 birds per annum [REP13-019]. The Applicant [REP9-016] contended that the current trend for gannet in the UK is growth at 2-3% per year, and therefore that the predicted worst-case reduction in the density independent population of 0.8% due to cumulative collisions would not result in a significant impact.
- 18.4.76. In [REP12-090], NE agreed that *"it is considered likely that the level of predicted cumulative impact would not be significant for a population growing at 2-3% per annum"*. However, NE went on to argue that 0.8% population reduction would be significant if the population baseline growth rate were to decrease from the current 2-3% per year to, for instance, 1% per annum. On this basis, and highlighting the UK's particular responsibility for gannet in supporting over half of the global population, NE advised that it was not able to rule out a significant adverse impact on gannet from cumulative collision mortality, regardless of whether H4, DEP and SEP were included in the cumulative totals [REP12-090].
- 18.4.77. Despite NE's opinion, the Applicant maintained its position until the end of the Examination, contending that *"the evidence strongly supports a conclusion that there is no risk of a significant cumulative impact"* [REP9-016]. There was no resolution of this disagreement before the Examination closed.
- 18.4.78. A further area of outstanding disagreement in terms of gannet collision risk was the RSPB's concern about the avoidance rate used as part of the Applicant's assessment methodology. The RSPB did not agree that the use of a 98.9% avoidance rate for gannet throughout the year should be used [REP8-105]. Whilst it accepted this figure for non-breeding birds, the RSPB contended that there was a lack of available evidence relating to breeding gannet. It referred to recent evidence from Lane *et al* (2019) and (2020)⁶ that gannet fly at different speeds and heights when provisioning chicks, which justifies use of a different avoidance rate for the breeding season. For this reason, the RSPB recommended that a more precautionary avoidance rate of 98% was used for the breeding season.
- 18.4.79. The Applicant's response was that the already low estimated mortalities assessed for gannet during the breeding season (12.5 birds) suggested low use of the proposed array area during the breeding season. In addition, the Applicant argued (section 12.6.2.1.2.3 of [APP-060]), it was questionable how many (if any) of those recorded gannets might be

⁶ Full references for the cited research are provided on page 6 of [REP8-105]

breeding adults, citing tracking data (from Langston *et al*, 2013) suggesting that breeding adults from the nearest gannet colony at Bempton Cliffs make “*very little if any*” use of the proposed wind farm site during the breeding season.

- 18.4.80. In further support of its adopted avoidance rate, the Applicant referred to the recommendations of Bowgen and Cook (2018) that a higher rate of 99.5% for gannet would be appropriate and that this recommendation was being considered by the SNCBs [REP8-105]. The 98.9% avoidance rate used by the Applicant was based on SNCB advice [REP8-105] and agreed with NE [REP8-110]. No agreement between the RSPB and Applicant was documented in relation to this matter before the end of the Examination.

Cumulative displacement impacts

- 18.4.81. Cumulative displacement impacts were another contentious aspect of the Examination. This section deals with the following species in turn:

- Gannet cumulative displacement impacts;
- Gannet cumulative displacement plus collision impacts
- Guillemot cumulative displacement impacts;
- Razorbill cumulative displacement impacts; and
- Red-throated diver cumulative displacement impacts.

Gannet cumulative displacement impacts

- 18.4.82. NE in [REP12-090] advised cumulative displacement abundance totals for gannet of 45,922 birds per annum for all projects excluding H4, DEP and SEP, and 50,751 birds per annum including H4, DEP and SEP. The estimated contribution of the Proposed Development to this cumulative displacement abundance for gannet was 1275 birds per annum [REP13-019]. It is important to note that these figures represent the number of gannets predicted to be at risk of displacement, and not predicted mortalities. These figures were reflected in the Applicant’s final cumulative displacement update [REP13-019]. NE’s advice was that the cumulative displacement abundances would equate to up to 367 mortalities per annum for all projects excluding H4, DEP and SEP, and 406 mortalities per annum including H4, DEP and SEP.
- 18.4.83. Whilst the headline figures were agreed, the significance of those figures was disputed. NE considered that there would be no significant impact on gannet due to cumulative displacement if H4, DEP and SEP were excluded. This was based on figures of 0.32 to 0.46% of baseline mortality for the largest BDMPS for gannet using displacement figures of between 60% and 80% and also the application of a 1% mortality rate [REP12-090].
- 18.4.84. However, NE stated [REP12-090] that it was not in a position to advise that a significant adverse impact could be ruled out when including H4, DEP and SEP in the cumulative totals, with the corresponding figures for baseline mortality of the largest BDMPS being between 0.35% to 0.47%. NE stated that its position was “*due to the inevitable uncertainty*

associated with the figures for Hornsea 4, DEP and SEP being from the PEIRs and...hence subject to change".

- 18.4.85. The Applicant maintained its position that there would be "Negligible" cumulative residual impacts for gannet as a result of disturbance and displacement effects arising from the Proposed Development. This remained unagreed at the end of the Examination.

Gannet cumulative displacement plus collision impacts

- 18.4.86. Since gannet have the potential to be affected in terms of both collision and displacement effects, NE in [REP12-090] contended that the gannet collision and displacement mortality figures should be summed, even though this would entail a degree of precaution due to the likelihood of double counting.
- 18.4.87. NE therefore concluded in [REP12-090] that the combined cumulative impact of collision plus displacement for gannet would be 3,307⁷ mortalities excluding H4, DEP and SEP or 3,418⁸ mortalities of those projects were also included. This would equate to a combined cumulative impact for all projects including H4, DEP and SEP of 3.92% of baseline mortality of the largest BDMPS or 1.52% of the biogeographic population.
- 18.4.88. On this basis, NE advised that combined cumulative collision risk plus displacement would reduce the population growth rate of the smaller BDMPS population of gannet by up to 0.9% and for the larger biogeographic population by up to 0.35% [REP12-090]. Consistent with the arguments made in relation to cumulative gannet collision risk above, NE stated that whilst an approximate reduction in annual growth rates of 0.9% would not be significant for a population growing at 2-3% per annum, it did not have certainty that recent population growth rates would be sustained into the future. As a result, NE was unable to rule out a significant adverse impact on gannet from cumulative collision plus displacement mortality. This conclusion was irrespective of whether H4, DEP and SEP were included in the cumulative totals [REP12-090].
- 18.4.89. As well as the individual arguments made by the Applicant in regard to gannet collision and gannet displacement (as discussed in earlier sections of this Chapter), the Applicant agreed with NE that simply summing the two figures was a simplistic approach that would lead to a degree of over-precaution due to the potential for double counting mortalities. This matter remained in contention at the close of the Examination.

Guillemot cumulative displacement impacts

⁷ 3,307 = 2,940 mortalities per annum from collisions plus up to 367 mortalities per annum from displacement

⁸ 3,418 = 3,012 mortalities per annum from collisions plus up to 406 mortalities per annum from displacement

- 18.4.90. The Applicant's final cumulative displacement update [REP13-019] was based on NE's advice [REP12-090] that the annual total cumulative number of guillemots at risk of displacement from all projects (including H4, DEP and SEP) would be 438,542. Excluding H4, DEP and SEP, the agreed cumulative total was 341,495 birds. However, the Applicant and NE disagreed on the assumptions underpinning displacement rates and mortality rates, and on the significance of the impact on the guillemot population.
- 18.4.91. The Applicant's argument in [REP9-016] with regard to predicted displacement mortalities was based on its preference for the use of 50% displacement and 1% mortality rate, which it submitted would give rise to a 0.75% increase in background mortality. NE consistently advocated the use of a range-based approach when considering displacement impacts, rather than a single figure [REP12-090].
- 18.4.92. In [REP12-090], NE cited figures based on recommended rates of 30% to 70% displacement and 1% to 10% mortality rates. Based on these rates, and including H4, DEP and SEP, NE advised that the predicted annual guillemot mortalities would be between 1,316 (based on 30% displacement and 1% mortality rate) up to 30,698 (based on 70% displacement and 10% mortality rate). This would equate to between 0.46 and 10.72% of baseline mortality for the largest BDMPS. If H4, DEP and SEP were excluded then this would fall to 0.36% to 8.35% of baseline mortality for the largest BDMPS.
- 18.4.93. Under the best-case scenarios of either 0.46% including H4, DEP and SEP or 0.36% excluding them, the cumulative mortality would clearly fall below the 1% of baseline mortality figure that is generally deemed as being the threshold at which effects are considered to be detectable. However, NE indicated [REP12-090] that at a 4% mortality rate and above, the threshold of 1% of baseline mortality for the population would be exceeded at all displacement rates from 30% to 70% irrespective of whether H4, DEP and SEP were included or not (Table A1.07 of [REP12-090]).
- 18.4.94. NE acknowledged [REP12-090] that the precise impact on bird mortality caused by displacement is difficult to study and predict accurately and as a result, the likely mortality impacts of displacement are simply not known. Ultimately, NE's final position was that cumulative mortality predictions would exceed 1% of baseline mortality of the largest BDMPS at a 2% mortality rate and when displacement rates exceed between 40 and 50%, depending on whether H4, DEP and SEP are included in the cumulative total.
- 18.4.95. As a result, NE stated that it was unable to rule out a significant adverse impact to guillemot due to operational displacement effects, regardless of whether H4, DEP and SEP are included in the cumulative totals.
- 18.4.96. The Applicant considered NE's mortality predictions to be over precautionary and maintained its position, as set out in [APP-060], that

there would be a negligible cumulative impact for guillemot. This matter remained in dispute at the end of the Examination.

Razorbill cumulative displacement impacts

- 18.4.97. The Applicant's final cumulative displacement update [REP13-019] predicted that the annual total cumulative number of razorbill at risk of displacement from all projects (including H4, DEP and SEP) would be 139,523. Excluding H4, DEP and SEP, the agreed cumulative total was 123,848 birds. These figures were closely aligned with, but not identical to, the figures estimated in NE's (REP12-090), which stated 139,527 and 123,852 respectively. The reason for the minor differences in the figures are not clear, but in [REP13-048] NE acknowledged the difference and agreed with the abundance figures presented by the Applicant.
- 18.4.98. As was the case for guillemot, the Applicant proposed the use of 50% displacement and 1% mortality rate indicated in the MacArthur Green study. The Applicant predicted that this would give rise to an increase in background mortality for razorbill of no more than 0.65% [REP9-016].
- 18.4.99. NE, however, advocated a range-based approach with a 30% to 70% displacement rate and a 1% to 10% mortality rate [REP12-090]. NE advised that this would equate to between 0.36% and 8.42% of baseline mortality for the largest BDMPS excluding H4, DEP and SEP or 0.41% to 9.48% including these three projects. NE's final position was that as predicted mortality would exceed 1% of baseline mortality of the largest BDMPS at a 2% mortality rate and between 40% and 50% displacement, irrespective of whether H4, DEP and SEP were included, it was unable to rule out a significant adverse impact.
- 18.4.100. The Applicant maintained that NE's figures were based on layers of precaution and that there would be "*Negligible*" cumulative residual impacts for razorbill as a result of operational disturbance and displacement effects. There was no resolution of this matter before the Examination closed.

Red-throated diver cumulative displacement impacts

- 18.4.101. NE's position on cumulative displacement impacts on RTD is set out in [REP8-159]. Beyond D8 of the Examination, NE's submissions in relation to RTD focussed on effects on the species as a qualifying feature of the OTE SPA.
- 18.4.102. In [REP8-159], NE welcomed the Applicant's use of a common dataset approach using SeaMAST data, as had been used for other recent OWF examinations such as Thanet Extension, Norfolk Vanguard and Norfolk Boreas. NE highlighted that the SeaMAST data did not include figures for a number of wind farm sites that are further offshore. The Applicant responded [REP9-016] that this was not an omission in the assessment, but rather reflected the fact that RTD are "*rarely if ever recorded further offshore and therefore these windfarms do not in fact contribute to the cumulative impact*". In [REP10-053] (row 9), NE confirmed that it was content in relation to this point.

- 18.4.103. NE's advice [REP8-159] was that the predicted cumulative displacement abundance figures presented in Table A12.3.9 of [APP-471] were significant and therefore that it was unable to rule out a significant adverse impact on RTD⁹ cumulatively with other plans and projects. That Table estimated that a total of 3,237.2 RTD would be at risk of displacement as a result of the Proposed Development cumulatively with other plans and projects.
- 18.4.104. The Applicant's response [REP9-016] was that the Tables in [APP-471] referred to by NE included figures for the proposed Thanet Extension OWF which had since been refused consent. The Applicant argued that Thanet Extension should be removed from the cumulative totals presented in [APP-471], which would reduce the cumulative total by up to 69 individual birds, equating to 17% of the total cumulative impact. To put that into context, the Applicant stressed that the Proposed Development would account for 28 RTD of the cumulative annual mortalities under the worst-case scenario (Table A12.3.8 of [APP-471]).
- 18.4.105. The Applicant expressed a view that NE's advice on the significance of the potential cumulative displacement impact was not supported by a clear justification. It noted that the winter (non-breeding) RTD population in the EU had been increasing over the recent short-term but that a lack of historical survey data meant that longer term population trends are unknown. The Applicant further stated that the threat to RTD in the EU was categorised as "*least concern*" with the population status being defined as Green, "*Secure*". For these reasons the Applicant maintained its position that there were no grounds to conclude a significant impact [REP9-016].
- 18.4.106. NE did not make further submissions in response to these points, other than to confirm that its position on the matter had not changed [REP10-053]. The final SoCG [REP8-110] recorded the matter as 'not agreed'.

Monitoring effects on offshore ornithology

- 18.4.107. Post-construction monitoring of effects on offshore ornithology was raised as an issue at the outset of the Examination by NE, who in Section 5 of [RR-059] identified some aspects of cumulative and in-combination impacts that it considered could be relevant for consideration for monitoring. The Applicant's submitted Offshore In-Principle Monitoring Plan (IPMP) [APP-590] made no specific provision for monitoring effects on seabirds.
- 18.4.108. During the Examination, and in response to discussions with NE and RSPB, the Applicant revised the IPMP at D3 [REP3-040], D6 [REP6-015] and finally at D8 [REP8-027]. The final IPMP [REP8-027] provides the

⁹ As a point of clarification, whilst NE's conclusions at paragraph 68 of [REP8-159] refer to "*cumulative collision mortality*", the ExA has proceeded on the basis that this was an error, and in fact NE was referring to cumulative operational displacement, in accordance with the heading of that section of its advice.

framework and guiding principles for the implementation of seabird monitoring activities associated with the construction and operation of the Proposed Development.

- 18.4.109. Section 1.7.7 of the IPMP sets out the following monitoring commitments in relation to offshore ornithology:
- Pre- and post-construction monitoring of RTD to determine the level of displacement from the wind farm site, the area of the OTE SPA affected by displacement and the potential for change in distribution of the species within the OTE SPA; and,
 - Post-construction collision risk monitoring with a view to increasing the certainty of CRM parameters and recording potential collisions with turbine blades. This follows the monitoring proposed for the East Anglia THREE (EA3) project.
- 18.4.110. The IPMP is a document to be certified under Article 36 of the Applicant's final dDCO [REP12-013]. It is secured by Condition 17 of DML1 and Condition 13 of DML2 which require that prior to commencement of the Proposed Development, a monitoring plan which accords with the IPMP is submitted to and approved in writing by the MMO.
- 18.4.111. Table 18.2 (below) summarises the offshore ornithology monitoring provisions secured in the draft DMLs by the end of the Examination. This position was agreed by NE [REP9-017].

Table 18.2: Offshore ornithology monitoring commitments secured in the final draft DMLs [REP12-013]

Draft DML1 Schedule 13 (generating assets)	Draft DML2 Schedule 14 (transmission assets)	Offshore ornithology monitoring measures
Condition 17	Condition 13	Pre-construction plans and documentation - (1)(c) monitoring plan to accord with certified IPMP
Condition 20	Condition 16	Pre-construction monitoring and surveys - (2)(d) pre-construction surveys must have due regard to any ornithological monitoring required by monitoring plan
Condition 22	Condition 18	Post construction - (2)(e) any post-construction ornithological monitoring required by the final monitoring plan

- 18.4.112. The final SoCG with NE [REP8-110] recorded that ornithological monitoring had been agreed pending NE review of the final IPMP and this

was confirmed as resolved in [REP9-017]. In [REP8-168], NE reported that its initial concerns about post-construction monitoring had been addressed. NE also confirmed its agreement that any monitoring required in relation to ornithological compensation measures under the Habitats Regulations would be identified in the relevant compensation packages, rather than in the IPMP [REP7-074].

- 18.4.113. The RSPB stated [REP8-105] that it did not agree with the assessment conclusions upon which the IPMP was based. The RSPB considered that there should be a detailed monitoring plan available during the Examination that contained sufficient flexibility to accommodate changes in either the science or the data between the application and operation of the Proposed Development.
- 18.4.114. In response, the Applicant noted [REP8-105] that it had further revised the IPMP and corresponding DML Conditions to make provision for ornithological monitoring. The Applicant's position remained that *"due to the long lead in time for the development of offshore windfarms it is not desirable or effective to provide final detailed method statements prior to being granted consent"* [REP8-027]. The RSPB did not revise its position on this matter before the end of Examination.
- 18.4.115. The MMO did not comment on the detail of offshore ornithological monitoring, but as the body ultimately responsible for the discharge of the relevant DML Conditions, it was involved in discussions about condition wording throughout the Examination. In [REP11-114] the MMO confirmed that it was not seeking any further changes to the drafting of the DMLs. The MMO also agreed with the content of the final IPMP (Table 2.14 of [REP12-073]).

Transboundary effects

- 18.4.116. Specific issues raised during the Examination in relation to transboundary effects on offshore ornithology are discussed in this Chapter. Transboundary matters as they relate to European sites are discussed in Chapter 24 of this Report, while consideration of wider transboundary matters can be found in Chapter 27.
- 18.4.117. In its RR [RR-066], Rijkswaterstaat (the Ministry of Infrastructure and Water Management for the Netherlands) raised concerns about the assessment findings set out in section 12.8 of ES Chapter 12 [APP-060]. Referring to an updated version of its 'Ecology and Cumulation Framework', Rijkswaterstaat requested that the ES be revised to take this publication into account.
- 18.4.118. The Applicant responded to these submissions at Section 5.5 of [AS-036], stating a view that the publications referred to were *"too high level to allow a meaningful assessment to be conducted and lack detail such as assumptions on flight heights and avoidance rates which were used"*. Furthermore, the Applicant argued that its CIA had already taken account of birds from outside of UK waters and provided a precautionary and robust assessment of the likely impacts and worst-case scenario.

- 18.4.119. In response to ExQ1.2.25 [PD-018], Rijkswaterstaat confirmed that it accepted the Applicant's explanation of its approach to assessment of transboundary ornithological matters. It also indicated agreement that the Applicant's CIA takes adequate account of the effects on 'non-UK' birds. The final Statement of Common Ground (SoCG) between the Applicant and Rijkswaterstaat [REP8-107] documented agreement between the two parties on the offshore ornithology assessment methodology and conclusions.

18.5. ExA RESPONSE

Proposed Development alone

- 18.5.1. Having reviewed the ES Chapter 12 [APP-060] and supporting information, the ExA is satisfied that the Applicant's conclusion that there would be no significant adverse impact from the Proposed Development alone for any of the offshore bird species considered to be at risk of collision mortalities (i.e., kittiwake, gannet, LBBG, herring gull and GBBG) or displacement mortalities (gannet, razorbill, guillemot and RTD) is robust. In coming to this view, the ExA has had regard to the advice of NE as summarised in [REP8-159] and RSPB [REP8-105].

Proposed Development cumulatively with other plans and projects

- 18.5.2. The ExA notes that NE and RSPB sustained objections to the Applicant's assessment of the cumulative impacts of the Proposed Development on offshore ornithology until the end of the Examination. The ExA's consideration of these objections is set out in the remaining sections of this Chapter, covering assessment methodology matters, cumulative collision risk impacts, cumulative displacement impacts and monitoring provisions. Transboundary effects are also considered.

Assessment methodology and assumptions

Collision Risk Modelling parameters

- 18.5.3. The ExA is content that through discussion during the Examination, agreement was reached between the Applicant and NE about parameters for the CRM, including agreement on nocturnal activity rates, the use of generic seabird flight heights and the use of the Band option 2 method [REP8-110]. Except for its disagreement with assumptions about gannet avoidance rates, which is dealt in a subsequent section of this Chapter, the RSPB has not raised concerns about the Applicant's CRM parameters.
- 18.5.4. The ExA is satisfied that the Applicant's CRM parameters were appropriate and that this formed a robust basis for the assessment of bird collision risk at the EIA scale.

Calculation of cumulative collision risk and displacement impacts

- 18.5.5. The ExA notes that at D13 NE raised [REP13-048] some discrepancies in the cumulative totals presented in Tables 4, 5 and 6 of the Applicant's

[REP12-066] for herring gull, GBBG and gannet and that these discrepancies were not addressed in the Applicant's final cumulative update [REP13-019]. Since the discrepancies were raised at the final deadline, the Applicant did not have an opportunity to respond to them within the Examination timescales.

- 18.5.6. However, the ExA notes that the herring gull figure of 19 collisions per annum from the East Anglia ONE project appears to reflect the estimated contribution of East Anglia ONE as built (comprising 102 turbines), rather than the consented scheme in that case (150 turbines). The ExA is aware that an application for a NMC to the East Anglia ONE DCO to (amongst other things) reduce the maximum number of turbines to 102 was submitted to the SoS but had not been determined prior to the closure of this Examination.
- 18.5.7. For reasons explained more fully in a subsequent section of this Chapter (Cumulative impact assessment and ornithological 'headroom'), the ExA takes the view that until and unless an amendment Order is made which reduces the maximum number of turbines permitted by the East Anglia ONE DCO, the cumulative totals for the Proposed Development should be based on the scheme as consented, not as built. This would lead to the conclusion that on the basis of the evidence before the ExA, NE's figure of 28 collisions should be used in Table 4 of [REP12-066]. However, should an amendment Order to the East Anglia ONE DCO be made, reducing turbine numbers to the 102 'as built' total prior to the SoS's decision on the Proposed Development, it is the ExA's view that it would be more appropriate to use the Applicant's mortality figure for herring gull of 19 annual collisions attributed to East Anglia ONE. Should this situation change before the SoS has reached a decision on the Proposed Development then this is a matter that they may wish to consult upon.
- 18.5.8. In terms of the discrepancy in GBBG collisions attributed to H4 in Table 5 of [REP12-066], this appears to the ExA to have been a simple oversight in calculating totals, with the annual total failing to correctly add together the breeding (3) and non-breeding (13.6) season totals. The ExA therefore agrees with NE that the correct annual contribution from H4 would appear to be 16.6 (3+13.6) collisions, rather than the 13.6 that is stated, and therefore that the cumulative annual collision total should be 1,003.1 birds rather than the 1000.1 birds that is stated in Table 5.
- 18.5.9. Given the very minor difference in the figures between the Applicant and NE on gannet displacement abundance (3 birds in the context of an annual total of 50,754) and for GBBG in terms of collision mortalities (3 birds in the context of an annual total of 1003.1 birds), the ExA does not consider that there would be a material difference to the consideration of cumulative gannet displacement effects or GBBG collision effects.
- 18.5.10. For the sake of clarity, the ExA recommends that the SoS seeks an updated version of [REP13-019] that addresses the discrepancies highlighted by NE in [REP13-048] for figures relating to herring gull, GBBG and gannet.

- 18.5.11. Furthermore, since IPs (most notably NE and RSPB) did not have an opportunity to respond to [REP13-019], the ExA considers that the SoS may wish to allow that opportunity to those key IPs through a focussed consultation exercise.

Cumulative impact assessment and ornithological ‘headroom’

- 18.5.12. The ExA has given careful consideration to the arguments on both sides of the question of whether it is appropriate for the cumulative (and in-combination) assessment for the Proposed Development to take account of the reduced parameters of other OWF projects where NMCs have been sought to make DCOs. This matter was explored through oral questioning in ISH3 (session 1 [EV-046], minutes 50:00-55:00), written questions under R17QF.2 [PD-052] and through written submissions from the Applicant and NE at several deadlines.
- 18.5.13. The ExA notes the comments of NE in ISH3 [EV-046] that this is, in effect, a strategic problem which requires a strategic solution and is mindful that NE is working with a range of stakeholders to consider the question of ‘headroom’ at that strategic scale. In considering how these issues impact upon the Proposed Development, the ExA makes the following observations:
- In terms of EA3, despite the SoS having authorised a NMC to the DCO which reduces total turbine numbers on 15 April 2021¹⁰, the Applicant confirmed in [REP13-015] that its final cumulative and in-combination collision risk update reflected EA3 as originally consented, using estimates of the contribution of the EA3 drawn from the Norfolk Boreas Deadline 8 position;
 - In terms of EA1, an application for a NMC to reflect the project that has been constructed was made on 30 March 2021 but no decision had been made by the SoS before the close of the Examination and the Applicant’s final cumulative and in-combination update was based on the contribution of EA1 as consented (rather than as built);
 - One exception to this appears to be in terms of the Applicant attributing 19 herring gulls, rather than 28, to EA1 in its final cumulative and in-combination collision update, as highlighted in the preceding section of this Chapter; and
 - At the time of this Examination’s close, the ExA was not aware of any other NMC applications of relevance to the cumulative ornithological assessment for the Proposed Development.

¹⁰ SoS decision letter is available here:

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-002489-210415%20Decision%20Letter%20-%20EA3%20NMC.pdf> and East Anglia THREE Offshore Wind Farm Amendment Order 2021 is available here:

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-002490-210415%20East%20Anglia%20THREE%20Offshore%20Wind%20Farm%20\(Amendment\)%20Order%202021.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-002490-210415%20East%20Anglia%20THREE%20Offshore%20Wind%20Farm%20(Amendment)%20Order%202021.pdf)

- 18.5.14. Nonetheless, the ExA is mindful of the possibility that the SoS may have other amended DCOs before it at the time of decision that may have a bearing on cumulative and in-combination assessment for the Proposed Development. For this reason, the ExA sets out its reasoning on this issue, which was debated at length during the Examination and remained unresolved at its close.
- 18.5.15. The ExA considers that once a DCO amendment order is made, this has the effect of amending the development permitted under the original DCO. In the cases cited in this Examination as relevant to the Proposed Development, this means that the maximum parameters of those consented schemes (essentially, the 'Rochdale Envelope') are reduced. The ExA is clear that once amended, the original DCO could not be implemented without a further application for a change, which may be material or non-material depending on the circumstances of the case. A decision about whether or not to allow further amendment to the DCO would necessarily be subject to consideration of the environmental effects of that change, amongst other things.
- 18.5.16. For these reasons, it is the ExA's clear view that cumulative assessment should be based on the project parameters as set out in the DCOs for those other projects at the time of the assessment. Where a DCO has been amended by an amendment Order, then it is the parameters of the amended project that are most appropriate for inclusion in the cumulative assessment. Consequently, the ExA considers that the appropriate approach would be for the cumulative assessment for the Proposed Development to reflect the amended project parameters for the EA3 OWF that are contained within the EA3 DCO amendment Order. This is contrary to the view of NE.
- 18.5.17. Where the ExA agrees with NE is when a DCO has not been amended through an amendment Order. In these cases, it is clear to the ExA that the only legally robust approach is to base the cumulative assessment on the project parameters contained within the DCO, regardless of whether an application to change that DCO has been made (but not yet decided) or whether a project has been constructed and commissioned with reduced parameters. In the case of the Proposed Development, the proposed amendment to the EA1 OWF DCO should not be taken into account in the cumulative assessment unless or until an amendment Order to that effect is made.
- 18.5.18. NE stated in [REP13-048] that it supports efforts to find an industry-wide policy solution to this problem and submissions to this Examination indicate that it is being discussed at a strategic level by a range of relevant stakeholders. Notwithstanding the obvious need for a wider, strategic approach to this matter, the ExA recommends that the issue of headroom for projects where an amendment to the original DCO has been made is a legal consideration that has the potential to affect the Proposed Development in terms of the assessment of cumulative and in-combination impacts. Therefore, the SoS may wish to satisfy itself on this matter.

- 18.5.19. The ExA welcomes the inclusion of Condition 31 of DML1 of the Applicant's final dDCO [REP12-013], which requires the undertaker to submit a 'close out report' to the MMO and the relevant SNCB within three months of the date of completion of construction of the Proposed Development. The close out report must include the final number of installed WTGs and WTG parameters relevant for ornithological collision risk modelling. Following completion of construction, no further construction activities are permitted under the DML. This is only relevant to the generation (as opposed to transmission) infrastructure permitted under the DCO.
- 18.5.20. The ExA has included the Condition, unamended, in its rDCO, on the basis that it has the potential to assist future OWF projects by providing certainty that a project has completed construction and accurate information for cumulative CRM on other proposals.

Other alleged aspects of methodological over-precaution

- 18.5.21. As reported by both the Applicant [AS-041] and NE [REP1-169], the question of over-precaution in the methodologies for predicting mortalities is a matter that has been discussed at a number of previous OWF Examinations. This is clearly an ongoing and evolving issue as, for example, the output from recent studies on avoidance rates demonstrates. NE accepts [REP1-169] that there is a great deal of uncertainty around the predictions of mortality, and therefore advocates a range-based approach to considering impacts.
- 18.5.22. The ExA has considered the arguments made in this Examination about potential over-precaution in methodologies. This matter was explored in writing (for example through ExQ1.2.12 and ExQ1.2.19 [PD-018]) and during the course of oral examination in relation to certain species (for example at ISH1 [EV-034b], ISH3 [EV-046] and ISH14 [EV-126b]-[EV-126d]).
- 18.5.23. On balance, the ExA agrees with NE that there is a danger in adopting findings from only the latest piece of research rather than using a weight of evidence approach. Consequently, whilst the Applicant has cited recent evidence that may or may not be borne out by subsequent studies, the ExA considers it appropriate not to place undue weight on any one study. This leads the ExA towards a conclusion that whilst there is likely to be some over-precaution in the cumulative assessment figures for the reasons outlined by the Applicant in [AS-041], it is not possible to identify with certainty which element would be the cause and to what extent that would be.
- 18.5.24. The ExA therefore considers that with regard to the potential issues with various assessment methodologies that have been identified by the Applicant, the ExA favours the approach as advocated by NE. Since the Applicant has based its final cumulative collision risk and displacement abundance totals on figures agreed with NE (and incorporating the methodological precautions discussed above), the ExA accepts these totals as presented by the Applicant in [REP13-019].

- 18.5.25. The ExA acknowledges that this is a subject area that will benefit from the weight of evidence that further studies will provide, particularly monitoring data from recently commissioned and operational OWF projects.

Cumulative collision risk impacts

Increase in turbine blade air-draught height

- 18.5.26. The ExA explored the Applicant's increase in minimum draught height from 22m to 24m in ISH1 ([EV-034b] and subsequently through written questions, including ExQ2.2.3 and ExQ2.2.7 [PD-030]. The ExA considers that it has been demonstrated that this increase in minimum air-draught height, which is secured by Requirement 2(1)(e) of the Applicant's final dDCO [REP12-013], would offer collision risk benefits for the Proposed Development, as set out in Section 4 and Table 2 of [REP1-047]. Drawing on [REP1-047], the predicted reduction in the contribution of the Proposed Development to cumulative collision estimates as a result of the increase in minimum draught height is summarised in Table 18.3, below.

Table 18.3: Changes to annual collision estimates following draught height increase from 22m to 24m

	Gannet	Kittiwake	LBBG	GBBG	Herring gull
22m draught height	47	50	5.2	7.6	0.5
24m draught height	39.6	42.3	4.7	6.9	0.2

- 18.5.27. In particular, the ExA probed the Applicant's justification for not committing to air-draught height increases beyond 24m, as has been the case for other recent OWF proposals in the southern North Sea. It is clear that further increases, if achievable, would be very likely to result in further reductions to collision mortality for the bird species specified in Table 18.3 [REP2-052] [REP8-105].
- 18.5.28. The Applicant's justification was presented in ISH1 [EV-034b, minutes 53:00-56:00], Section 2.3 of [REP1-039], Section 2.1.1 of [REP3-073] and in response to ExQ2.2.7 [REP6-061]. The ExA notes that the Applicant's assessment of further increases found that increasing draught height up to 30m above MHWS would be technically feasible, but with an increasing commercial impact on the project, whilst increases over 30m

above MHWS would be technically unfeasible on the basis of current installation vessels and turbine technology [REP6-061].

- 18.5.29. The ExA notes the strong desire from NE and RSPB for the Applicant to commit to further increases in minimum air draught height, the potential benefits of which in bird collision terms are undisputed. However, the ExA acknowledges that the array area for the Proposed Development lies in significantly deeper water than the other OWFs cited by NE and is potentially more constrained, seeking a markedly higher capacity density (MW per km²) [REP3-073]. The ExA notes that paragraphs 2.6.31-32 of NPS EN-3 recognise that water depth, bathymetry and geological conditions will affect the selection of sites and the design of foundations, layout of turbines and siting of cables within them
- 18.5.30. In the absence of detailed geotechnical and other site investigation data, the Applicant has made an adequate case that increasing draught height above 24m above MHWS on the application site would have significant implications for the type and cost of foundations that could be used, and could materially reduce the buildable area by rendering the deepest parts of the site uneconomical. The ExA accepts the argument that this could jeopardise the technical feasibility and commercial viability of the Proposed Development as a whole.
- 18.5.31. Whilst the arguments of NE and RSPB have been carefully considered, the ExA has not been presented with any compelling evidence to demonstrate that the Applicant's justification on the basis of the particular characteristics of the proposed array area is flawed or unacceptably conservative. Consequently, the ExA considers that in this regard, the Applicant has made reasonable endeavours to minimise the contribution of the Proposed Development to cumulative collision totals by as much as possible in this case.

Kittiwake cumulative collision impacts

- 18.5.32. In considering the potential cumulative collision impacts on kittiwake, the ExA has had regard to the positions of the Applicant, NE and RSPB, as set out in Section 18.4 of this Chapter. The ExA notes that there is agreement between the Applicant and NE about the predicted cumulative collision mortality figures and the contribution of the Proposed Development toward the cumulative total.
- 18.5.33. It is common ground that the Proposed Development has the potential to be attributable for 42 annual kittiwake collisions of a cumulative total of 4,015 mortalities (excluding H4, DEP and SEP) or 4,243 mortalities (including H4, DEP and SEP) [REP13-019].
- 18.5.34. The ExA acknowledges that this is a relatively modest contribution to the cumulative total compared to some other projects included in the cumulative assessment. The ExA also accepts that inherent in these predicted mortalities are several areas of precaution which mean that these figures may not be borne out to their full extent in reality. The natural fluctuation in the kittiwake population over recent decades is also noted, although the reasons for these fluctuations appear not to be fully

explained. Nonetheless, the agreed figures represent a realistic worst-case scenario and it is clear that the total cumulative collisions would exceed 1% of the baseline mortality of the North Sea BDMPS. The ExA also gives weight to NE's advice that kittiwake is listed as 'Vulnerable' to global extinction on the IUCN Red List (since 2017) and also listed as Red on BoCC4 as a result of severe population declines in the UK.

- 18.5.35. Based on the number of cumulative collision mortalities and the resultant impacts on the kittiwake population overall, a population that is classified as 'Vulnerable', the ExA concludes that there would be a significant adverse impact on kittiwake cumulatively as a result of the Proposed Development, irrespective of whether H4, DEP and SEP are included in the cumulative total.

LBBG cumulative collision impacts

- 18.5.36. On the basis on the discussion of cumulative collision impacts on LBBG set out in 18.4 (above), the ExA notes that there would be no detectable increase on the background mortality rate of the biogeographic population of LBBG and that the predicted 0.33% reduction in the annual population growth rate of the BDMPS population of LBBG due to cumulative collisions would not be significant for a population that has demonstrated recent growth of approximately 1.8% per annum. The ExA therefore agrees with the Applicant and NE that there would be no cumulative significant adverse impact for LBBG collision mortalities if H4, DEP and SEP are excluded from the cumulative totals.
- 18.5.37. Turning to the cumulative LBBG collisions for all projects including H4, DEP and SEP, the ExA is mindful that at the end of this Examination, all three of those projects were at the pre-application stage, with only preliminary environmental information available for the purposes of cumulative assessment. Each of these proposed projects will, if applied for, be subject to their own Examination processes, during which time it is possible that the data and assessment methodologies will be amended.
- 18.5.38. Returning to the agreed figures for cumulative LBBG collisions, the ExA is struck that including H4, DEP and SEP as cumulative projects would add only 3 annual LBBG collisions to the cumulative totals (533 annual mortalities, as opposed to 530). The ExA is not convinced that this modest difference in the cumulative totals justifies the difference in stance from NE, or tips the balance in favour of significant adverse impact, particularly when the contribution of the Proposed Development to these cumulative totals is very small (5 birds (4.7 rounded up) per annum).
- 18.5.39. At the heart of NE's concerns [REP12-090] [REP13-048] appears to be the inevitable uncertainty of PEIR data for the three proposed projects and the fact that it may be subject to change in the future, as opposed to a particular identified cumulative effect for LBBG. The ExA acknowledges that there is a degree of uncertainty in the figures that can be attributed to H4, DEP and SEP. As Nationally Significant Infrastructure Projects (NSIPs) on the Planning Inspectorate's Programme of Projects and for which a scoping report has been submitted, H4, DEP and SEP appear to

the ExA to be Tier 2 projects within the meaning of the Inspectorate's Advice Note 17 (Cumulative Effects Assessment)¹¹. There is a moderate amount of certainty that the projects will become 'other approved developments' and there is some detail available about their likely environmental effects. There is also the possibility that one or more of the projects will never become approved developments and that the data about the timing, location and magnitude of their environmental effects could change prior to any decision on their DCOs.

- 18.5.40. The latest environmental information available to this Examination about H4, DEP and SEP included data from not only their scoping requests but also their published preliminary environmental information, and the best information at the close of the Examination was that the three projects would be submitted before the end of 2021¹². On this basis, it is reasonable to expect that the data about those projects used to inform the Applicant's cumulative assessment was in a relatively mature state.
- 18.5.41. Taking this into account, the ExA takes the view that there is sufficient certainty before it to rely on the Applicant's assessment of cumulative impacts on LBBG and rule out a significant adverse impact on LBBG from all projects including H4, DEP and SEP. Consequently, the ExA agrees with the Applicant's conclusion that the Proposed Development cumulatively with other plans and projects would give rise to minor adverse impacts on LBBG.
- 18.5.42. Should updated ornithological data for any or all of the three proposed projects be in the public domain (for example, through the submission of DCO applications) before the SoS has reached a decision on the Proposed Development, then this may be a matter upon which the SoS deems it necessary to carry out further consultation.

Herring gull cumulative collision impacts

- 18.5.43. At D12 [REP12-090], NE advised that cumulative annual collision mortality for herring gull would be 763 birds excluding H4, DEP and SEP and 766 birds for all projects including H4, DEP and SEP. However, these figures were slightly higher than those stated by the Applicant at D13 [REP13-019], which predicted cumulative annual collision mortality of 754 birds excluding H4, DEP and SEP and 757 birds including those projects. In its response to NE's D12 figures, the Applicant did not provide an explicit explanation for the difference [REP13-015]. Total cumulative figures aside, the Applicant and NE agreed that including H4, DEP and SEP in the cumulative collision totals would add 3 herring gull mortalities per annum.

¹¹ The Planning Inspectorate's Advice Note 17 is available at the following link: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/>

¹² According to the relevant project pages of the Planning Inspectorate's National Infrastructure website: <https://infrastructure.planninginspectorate.gov.uk/projects/>

- 18.5.44. The ExA notes that there was no agreement recorded before the end of the Examination on the precise figures for cumulative herring gull collision mortality, with NE advising 763 birds excluding the H4, DEP and SEP projects and 766 birds including H4, DEP and SEP [REP12-090], whilst the Applicant recorded the totals as 754 and 757 respectively [REP13-019]. The reason for the difference in figures has not been explained. Given that the difference is relatively minor in the context of the total values, and conscious of the need for precaution, the ExA has drawn its conclusions on the basis of the figures advised by NE.
- 18.5.45. The ExA notes the agreed position between the Applicant and NE that a significant adverse impact from the Proposed Development in terms of cumulative collision risk on herring gull could be ruled out when H4, DEP and SEP are excluded from the cumulative totals. On the basis of the submitted evidence, including confirmation that the cumulative collision totals would not exceed 1% of baseline mortality for either the largest BDMPS or the biogeographic population, the ExA is content to agree with this conclusion.
- 18.5.46. The ExA has considered NE's advice that due to the uncertainty associated with the figures for H4, DEP and SEP, a significant impact cannot be ruled out for cumulative collision impacts on herring gull when those projects are included in the cumulative totals. The ExA notes that the agreed cumulative totals are only slightly higher when H4, DEP and SEP are added into the calculations (757 including H4, DEP and SEP rather than 754 excluding those projects). As is noted above in relation to LBBG, the ExA is conscious that NE's position is driven by the level of uncertainty around the contribution of these future projects, which at the close of Examination were all at the pre-application stage [REP12-090].
- 18.5.47. The ExA acknowledges that there is scope for the data underpinning the predicted collisions from H4, DEP and SEP to change as those projects progress to submission and possible Examination. However, the ExA is comfortable that given those projects have passed PEIR stage and are nearing submission, the figures presented to this Examination provide a good guide as to the likely scale of the contribution to herring gull collision mortality for use in the cumulative assessment for the Proposed Development. NE's evidence does not suggest that including H4, DEP and SEP would push the cumulative collision mortality in exceedance of 1% of baseline mortality for either the BDMPS or biogeographic population. Furthermore, the ExA is mindful of the very modest scale of the contribution from the Proposed Development (0.5 herring gulls per annum) to the cumulative total.
- 18.5.48. For all of these reasons, the ExA concludes that the Proposed Development, when considered cumulatively with other plans and projects including H4, DEP and SEP, would not give rise to significant adverse impacts in terms of herring gull collision mortality, and accepts the Applicant's findings of "negligible" cumulative residual impacts.
- 18.5.49. In arriving at this conclusion, the ExA has had regard to its own conclusion earlier in this Chapter that on the basis of the circumstances

at the end of this Examination, it would be more appropriate for the cumulative herring gull collision totals to apportion the higher figure of 28 predicted mortalities to the EA1 OWF. In terms of the difference between that and the 19 annual collisions from EA1 apportioned by the Applicant in [REP13-019], the ExA takes the view that the higher figure is not substantially greater when considered in the context of the cumulative predicted total collision mortalities, being 766 for all projects based on NE's calculations.

Great black-backed gull cumulative collision impacts

- 18.5.50. Although the cumulative collision figures for GBBG were broadly agreed between the Applicant and NE, the ExA notes the Applicant's apparent error in calculating H4's contribution to cumulative totals in Table 5 of [REP12-066], as discussed in the 'Methodology' section of this Chapter. This was also noted by NE who in [REP12-090] stated that it had included the higher figure in its calculations. The ExA's position is that the correct annual contribution from H4 would appear to be 16.6 (3+13.6) collisions and therefore that the cumulative annual collision total should be 1,003.1 birds. Based on the numbers of predicted mortalities the ExA considers difference to be one that would not affect significantly the overall cumulative impact considerations.

- 18.5.51. The ExA acknowledges that at 6.9 predicted mortalities per annum, the contribution from the Proposed Development to overall GBBG collision mortalities would be relatively small. The ExA also acknowledges that the cumulative collision risk assessment for GBBG takes a precautionary approach and therefore the predicted mortality numbers may not be borne out to their full extent in reality.

- 18.5.52. Notwithstanding this, the figures presented represent a realistic worst-case scenario and the total cumulative collisions, even at the lower predicted levels, would clearly exceed 1% of the baseline mortality of the BDMPS or the biogeographic population, both including and excluding H4, DEP and SEP. The ExA accepts NE's advice that, using the PVA models undertaken by Norfolk Boreas, the BDMPS population after 30 years would be between 25.54% lower than without the cumulative effect using the best-case scenario (i.e. the lower end of the density dependent model range) and 33.23% in the worst-case scenario (the upper end of the density independent model range).

- 18.5.53. The ExA has also had regard to NE's advice that the population growth rate for GBBG at the BDMPS scale would be reduced by between 0.95% (the lower end of the density dependent model) and 1.3% (the top end of the density independent model). The ExA has taken account of the Applicant's case (as set out in 10.3.1.5 of [REP9-016] that the trend in the UK population is less relevant to this assessment, because the collision predictions are skewed to winter months when large numbers of birds from Norway and Russia are present. However, the ExA gives weight to NE's advice that, though classified as "*Least Concern*" of global extinction by the IUCN, at a UK level GBBG is listed as Amber in BoCC4 due to moderate declines in both the breeding and non-breeding populations.

- 18.5.54. Taking all of this into account the ExA takes the view that the Proposed Development cumulatively would give rise to a significant adverse impact on GBBG, whether or not H4, DEP and SEP are included in the cumulative totals.

Gannet cumulative collision impacts

- 18.5.55. Taking first the RSPB's objections about the avoidance rate used by the Applicant in its assessment of gannet collision risk, the ExA has considered the arguments and noted that this is an area in which evidence from recent studies is actively building scientific knowledge. Whilst the ExA recognises the RSPB's concerns about the availability of evidence for breeding gannet, it is mindful that the Applicant has used the avoidance rate advised by the SNCB [REP8-105].
- 18.5.56. Moreover, the ExA accepts the Applicant's submissions that relatively low numbers of gannet mortalities are predicted during the breeding season (12.5 birds), and it should not be assumed that all of the affected birds would be breeding adults, with tracking data cited by the Applicant suggesting that the site is used relatively infrequently by gannets from the nearest colony during the breeding season. It is therefore questionable whether even applying the RSPB's preferred avoidance rate (98%, as opposed to the Applicant's 98.9%) would make a material difference to the assessment outcomes. For these reasons, the ExA considers that the Applicant's chosen avoidance rate is appropriate in this case.
- 18.5.57. Turning to the assessment conclusions, the ExA notes that gannet is a species of "*Least Concern*" with respect to the potential for global extinction. However, the UK supports over half the global gannet population and at the UK scale the species is Amber listed by BoCC4. For these reasons, the ExA gives weight to NE's concerns about conserving the UK population of northern gannet.
- 18.5.58. At 39.6 predicted gannet mortalities per annum, the ExA considers that the contribution from the Proposed Development to a cumulative gannet mortality total of 3,012 (including H4, DEP and SEP) [REP13-019], would be reasonably small. The ExA also notes that the cumulative collision risk assessment for gannet takes a precautionary approach and therefore that the predicted mortality numbers represent a realistic worst case scenario.
- 18.5.59. The figures presented to this Examination predict that cumulative collision mortality for gannet would exceed 1% of the baseline mortality of the BDMPS population and would also exceed 1% of baseline mortality of the biogeographic population, albeit only slightly. The ExA notes that the best-case to worst-case ranges of reductions to population growth rates would be from 0.76% to 0.8% per annum as a result of cumulative collision mortalities [REP12-090].
- 18.5.60. The ExA considers that the significance of the additional cumulative mortalities would be largely dependent on the predicted UK gannet population growth rates. The ExA agrees with both the Applicant and NE

that should the UK gannet population maintain its current growth rate of 2 to 3% per annum, then a worst-case reduction in growth rate of 0.8% as a result of cumulative collisions would not be significantly adverse.

- 18.5.61. The ExA has carefully considered NE's concerns that should the population growth rate reduce in the future (for example to 1% per annum), then this could result in a significant adverse effect from the Proposed Development cumulatively with other plans and projects. However, the ExA has not been presented with any substantive evidence to indicate that there is a likelihood of that being the case. In the absence of any such evidence and based on the current, agreed population growth rates, the ExA considers that the Proposed Development cumulatively would not give rise to a significant adverse impact on gannet in terms of operational collision risk, even including H4, DEP and SEP in cumulative totals. Instead, the ExA accepts the conclusions of the Applicant's assessment that impacts on gannet due to cumulative collision risk would be minor adverse.

Cumulative displacement impacts

Gannet cumulative displacement impacts

- 18.5.62. The ExA has carefully considered the submissions from all relevant IPs in respect of the potential cumulative displacement impacts arising from the Proposed Development in relation to gannet. In the ExA's view there would be only a modest difference between the mortality figures as a percentage of baseline mortality for the largest BDMPS depending on whether H4, DEP and SEP are included in or excluded from the cumulative totals¹³. In both cases, predicted cumulative mortality would be well below 1% of baseline mortality.
- 18.5.63. The ExA notes that NE's concern in terms of cumulative totals including H4, DEP and SEP therefore appears to derive from perceived uncertainty in the H4, DEP and SEP data, because those projects were still in the pre-application stage at the end of this Examination. However, the ExA considers that given those projects have passed PEIR stage and are close to submission, the figures presented to this Examination provide a robust guide as to the likely scale of the contribution to gannet displacement for use in the assessment of cumulative impacts.
- 18.5.64. Consequently, the ExA considers that there is sufficient certainty to form the conclusion that there would be no significant adverse impact cumulatively due to gannet displacement irrespective of whether H4, DEP and SEP are included. The ExA therefore agrees with the Applicant's assessment that the Proposed Development would give rise to "Negligible" cumulative displacement impacts on gannet.

¹³ 0.32-0.46% of baseline mortality excluding H4, DEP and SEP and 0.35-0.47% including H4, DEP and SEP.

Gannet cumulative collision plus displacement impacts

- 18.5.65. Having given careful thought to the matters discussed, the ExA concurs with NE's view that the predicted cumulative gannet collision and gannet displacement mortalities are additive and therefore should be summed. The ExA acknowledges that this is a simplistic approach and is likely to give rise to an inherent degree of precaution, since there would be a risk of double counting some of the predicted mortalities.
- 18.5.66. In considering this matter, the ExA has had regard to its conclusions in respect of cumulative collision impacts and displacement impacts for gannet, as set out in the two preceding sections. Taking into account the overall collision and displacement mortalities, and having regard to the fact that based on current rates the gannet population is predicted to continue to grow, the ExA considers it reasonable to conclude that the Proposed Development cumulatively would not give rise to a significant adverse impact overall on gannet. In arriving at this view, the ExA has had regard to the northern gannet's classification as 'Least Concern' with respect to potential for global extinction and 'Amber' listing by BOCC4.
- 18.5.67. For the same reasons as set out above in respect of cumulative collision impact, the ExA accepts the Applicant's conclusion that the combined collision plus displacement cumulative impact would be minor adverse irrespective of whether H4, DEP and SEP are included in the cumulative totals.

Guillemot cumulative displacement impacts

- 18.5.68. The ExA notes that by the close of the Examination there were no significant disagreements between the Applicant and NE or the RSPB over the cumulative displacement abundance figures for guillemot that had been provided by the Applicant in [REP12-066] and then finally in [REP13-019], even though the Applicant disagreed with what it considered to be the layers of over-precaution underpinning those figures.
- 18.5.69. The ExA observes that differences in the assessment methodologies supported by the Applicant and NE, which led to considerable differences in the predicted increase in guillemot mortalities as a result of the Proposed Development cumulatively with other plans and projects. The Applicant predicted an increase of no more than 0.75% of baseline mortality for the largest BDMPS, whilst NE estimated the increase to be between 0.46% and 10.72% for all projects including H4, DEP and SEP (0.36% and 8.35% excluding H4, DEP and SEP).
- 18.5.70. The ExA is mindful that NE expressed concern about basing methodological assumptions on one study rather than taking a more precautionary range-based approach. The ExA agrees with NE on this point and considers that where studies are few, it is reasonable to base predicted mortality rates on a range of displacement and mortality assumptions.

- 18.5.71. Having considered the evidence closely, the ExA notes that a significant proportion of the potential range of displacement and mortality rate assumptions would result in the exceedance of 1% of baseline mortality and that this is particularly sensitive to the mortality rates applied. Whilst such exceedance does not automatically mean an impact is necessarily significant, nevertheless this is the threshold at which further assessment is required.
- 18.5.72. For the reasons already discussed, the ExA considers that although there is likely to be a degree of over-precaution inherent in the cumulative mortality totals, this is difficult to identify and to calculate. In addition, there is the potential for some impacts to be more serious than predictions allow for. Taking all of this together, it is the ExA's view that the precautionary approach advocated by NE is reasonable and should be adopted. For this reason, the ExA agrees with NE that it is not possible to rule out a significant adverse impact on guillemot cumulatively irrespective of whether H4, DEP and SEP are included in cumulative totals.

Razorbill cumulative displacement impacts

- 18.5.73. The ExA notes that by the close of the Examination the Applicant's cumulative displacement abundance figures for razorbill were agreed with NE [REP13-019]. The differences between the Applicant and NE regarding underlying methodological assumptions used in predicting the mortality consequences for razorbill were the same as those that are reported above for guillemot. Whilst the Applicant estimated an increase in razorbill mortalities equivalent to no more than 0.65% of baseline mortality, NE's estimates ranged between 0.41% and 9.48% for all projects including H4, DEP and SEP (0.36%-8.42% excluding H4, DEP and SEP).
- 18.5.74. NE acknowledged that the majority of projects scoped into the cumulative impact assessment were in areas of low to medium levels of razorbill density during both the breeding and non-breeding seasons and consequently that mortality rates would be unlikely to be near the top of the 1%-10% range that it advised. Nevertheless, it is clear from the evidence that even at a 2% mortality rate, if displacement exceeded 30% (when including H4, DEP and SEP in cumulative totals) or 40% (when excluding H4, DEP and SEP from cumulative totals) then mortality rates as a result of the Proposed Development cumulatively would exceed 1% of baseline mortality for razorbill. Based on the submitted evidence, the ExA takes the view that there is a realistic likelihood of this scenario occurring.
- 18.5.75. Exceedance of 1% of baseline mortality would not, in itself, automatically equate to a significant adverse impact at the EIA scale. However, given the widely acknowledged uncertainties in predicting mortalities as a result of disturbance, the ExA considers that it is appropriate to take a precautionary approach to this matter. The ExA therefore accepts NE's use of a range-based approach to predicting potential displacement impacts. Following this approach, it is clear that it is reasonably

foreseeable that cumulative displacement mortalities could be significantly in excess of 1% of baseline mortality for razorbill.

- 18.5.76. Moreover, the ExA is mindful that razorbill are listed as 'near threatened' on the IUCN Red List and listed as 'amber' on BoCC4. Taking all of these factors into consideration, the ExA concludes that it cannot rule out a significant adverse impact on razorbill as a result of the Proposed Development cumulatively with other plans and projects. This finding is irrespective of whether H4, DEP and SEP are included in the cumulative totals.

Red-throated diver cumulative displacement impacts

- 18.5.77. Throughout the Examination, the focus in terms of RTD effects was on the species as a qualifying feature of the OTE SPA and consequently, the impact on RTD at the EIA scale has been less documented by the Applicant and IPs than the HRA impact. Nevertheless, the ExA has had regard to all of the evidence presented to the Examination of relevance to cumulative displacement impacts on RTD, which included (amongst others) the following submissions from NE: [RR-059], [REP1-159], [REP4-087], [REP6-113], [REP7-070], [REP8-159] and [REP9-067].
- 18.5.78. The ExA accepts the Applicant's argument that since the proposed Order for Thanet Extension was not made, it is reasonable to remove that project from the cumulative totals for RTD. The evidence indicates that this would reduce the cumulative total presented in [APP-471] by approximately 17% [REP9-016], although the cumulative figures were not re-calculated and presented to the Examination.
- 18.5.79. The ExA acknowledges that NE's advice [REP8-159] on cumulative RTD impacts was based on figures in [APP-471] that included Thanet Extension. NE did not respond directly to the Applicant's assessment [REP9-016] that removing Thanet Extension would avoid significant adverse impacts on RTD cumulatively. However, NE maintained and reiterated its position that significant adverse impacts would arise until the end of examination [REP12-090][REP13-048], which indicates that it did not agree with the Applicant's argument.
- 18.5.80. The ExA notes that the population status of RTD is categorised as relatively unthreatened and secure. The ExA also acknowledges that inherent within the assumptions underpinning the cumulative displacement totals are several areas of precaution. However, the ExA is also conscious of the high sensitivity of RTD to disturbance, as acknowledged by the Applicant [APP-060], and of the absence of data about long-term population trends. These factors indicate that a good degree of precaution is appropriate in respect of this matter.
- 18.5.81. The ExA notes the Applicant's estimates (Table A12.3.8 of [APP-471]) that the Proposed Development would contribute up to 28 birds annually to cumulative RTD displacement mortalities. Moreover, the Proposed Development would make a 2.8% contribution to potential displacement abundance within the biogeographic population area (Table A12.3.10 of [APP-471]). In addition, the Applicant's assessment was based on an

assumption that RTD could be displaced up to 4km from an OWF site, which has been brought into question during the Examination, with NE advising that displacement effects can extend up to (and sometimes beyond) 10km.

- 18.5.82. In the ExA's view, all of these factors taken together indicate that the Proposed Development does have the potential to make a material contribution to cumulative RTD mortalities. Therefore on the basis of the information before it and the uncertainty that remains, the ExA concludes that a significant adverse impact on RTD as a result of cumulative disturbance cannot be ruled out.

Monitoring effects on offshore ornithology

- 18.5.83. The ExA explored the question of ornithological monitoring orally at ISH1 [EV-034b-c], ISH3 [EV-046] and ISH14 [EV-126b-c] and through written questions including EXQ1.2.23 [PD-018]. The ExA notes the Applicant's commitments in Section 1.7.7 of the IPMP [REP8-027] and related dDML conditions [REP12-013], which have been agreed with NE and (to the extent that it is the discharging body for the DML conditions) the MMO.
- 18.5.84. Since the purpose of the monitoring provisions for RTD is primarily in connection with effects on the species as a feature of the OTE SPA, the ExA's consideration of RTD monitoring is dealt with further in Chapter 24 of this Report.
- 18.5.85. The ExA has considered the submissions of the RSPB with regard to ornithological monitoring. Where the RSPB's disagreement stems from the assessment conclusions upon which the IPMP was based, these matters are considered in the relevant species-specific section of this Chapter. Insofar as the RSPB's concerns pertain to the level of detail on ornithological monitoring provided in the IPMP, the ExA considers it reasonable that a degree of flexibility in the details of the final monitoring provisions is reserved at this stage, given the five-year commencement period for the Proposed Development and the realistic scope for advances in data from other sources on ornithological matters in that timeframe. Evidence to this Examination has demonstrated that the science informing the understanding of ornithological effects is a particularly dynamic and rapidly evolving area. Retaining some flexibility (under the umbrella of the certified IPMP) allows for the final monitoring plan to be as focussed and effective as possible in addressing the specified monitoring purposes.
- 18.5.86. Consequently, the ExA's view is that the final IPMP provides a sound framework for the formulation of the more detailed monitoring plan required under the conditions of the DMLs. The monitoring provisions specified in Section 1.1.7 of the IPMP [REP8-027] support the conclusions of the ES Chapter 12 [APP-060] and would assist in measuring displacement effects on RTD and collision impacts on a range of seabirds. The ExA considers that this is in accordance with paragraphs 2.6.51-2 of NPS EN-3, which recognise that monitoring the effects of offshore wind development may be required in order to assess the accuracy of the ES

predictions and inform the scope of future EIAs. The ExA is also satisfied that the drafting of the relevant DML Conditions (as set out in Table 18.2, above) is adequately precise to secure the ornithological monitoring commitments.

Transboundary effects

- 18.5.87. The ExA's full consideration of transboundary matters can be found in Chapter 27 of this Report, and transboundary matters as they relate to European sites are discussed in Chapter 24. In relation to the specific transboundary ornithological matter raised by Rijkswaterstaat during the Examination, the ExA explored the issue through ExQ1.2.25 [PD-018] and observed progress toward agreement through the three submitted versions of the SoCG ([AS-048], [REP1-054], [REP8-107]).
- 18.5.88. The Applicant's CIA for offshore ornithology [APP-060] refers to seasonal biologically defined minimum population sizes for UK waters which include migratory populations of birds from outside UK waters. Consequently, the assessment has taken account of 'non-UK' birds and the ExA notes Rijkswaterstaat's contentment with this position. The ExA is therefore satisfied that Rijkswaterstaat's initial concerns have been addressed through its further conversations with the Applicant and that the Applicant's assessment of potential effects on ornithological receptors outside of the UK as a result of the Proposed Development is adequate.

18.6. CONCLUSION ON OFFSHORE ORNITHOLOGY

- 18.6.1. In relation to offshore ornithology matters, the ExA concludes as follows:

- The ExA considers that the ES, taken together with the additional clarification material submitted during Examination, presents an adequate assessment of the potential effects on offshore ornithology from both the Proposed Development alone and cumulatively with other proposals, including the other East Anglia Application.
- The ExA agrees with the view expressed by the Applicant and agreed by NE that there would be no significant adverse impacts on offshore ornithology for any species as a result of the Proposed Development alone.
- On a cumulative basis, the ExA has found that, contrary to the Applicant's assessment, a significant adverse impact could not be ruled out for the Proposed Development when considered cumulatively with other plans and projects for the following species:
 - Kittiwake (collision), regardless of whether H4, DEP and SEP are included;
 - GBBG (collision), regardless of whether H4, DEP and SEP are included;
 - Guillemot (displacement), regardless of whether H4, DEP and SEP are included;
 - Razorbill (displacement), regardless of whether H4, DEP and SEP are included; and
 - Red-throated diver (displacement), regardless of whether H4, DEP and SEP are included.

- The ExA has concluded that, in line with the Applicant's assessment, there would be a minor adverse cumulative impact on:
 - LBBG (collision), regardless of whether H4, DEP and SEP are included; and,
 - Gannet (collision, and collision plus displacement), regardless of whether H4, DEP and SEP are included.
- The ExA has found a negligible cumulative impact on:
 - Gannet (displacement), regardless of whether H4, DEP and SEP are included; and,
 - Herring gull (collision), regardless of whether H4, DEP and SEP are included.
- These conclusions take account of the mitigation measures forming part of the project design, including the Applicant's increase in minimum turbine draught heights to 24m above MHWS.
- Since some of the ExA's findings in relation to cumulative ornithological impacts take into account predicted mortalities from OWF projects that had not been submitted prior to the close of this Examination, the ExA recognises the possibility that the ornithological data may be subject to change, through revised estimates for those projects. As a general principle, should updated ornithological data for the proposed H4, DEP or SEP projects be in the public domain (for example, through the submission of DCO applications) before the SoS has reached a decision on the Proposed Development, then the ExA has identified this as a matter upon which the SoS may deem it necessary to carry out further consultation.
- In addition to this general point, the ExA has identified the following specific areas in which the SoS may wish to request clarification or the views of IPs prior to making a decision in respect of the Proposed Development:
 - An updated version of [REP13-019] from the Applicant that addresses the discrepancies highlighted by NE in [REP13-048] and discussed by the ExA (above) for cumulative figures relating to herring gull, GBBG and gannet; and
 - Focussed consultation on an updated version of [REP13-019] (most notably with NE and RSPB), since it was submitted at the final Examination deadline (D13).
- In terms of monitoring, the ExA has found that the final IPMP [REP8-027] provides a sound framework for the finalisation of ornithological monitoring plans, as required by the conditions of the DMLs, which will focus on RTD displacement effects at the OTE SPA and collision impacts on seabirds in the post-construction phase.
- The ExA is satisfied that the Applicant's assessment of potential effects on ornithological receptors outside of the UK as a result of the Proposed Development is adequate and that the initial concerns expressed by Rijkswaterstaat were satisfactorily addressed before the conclusion of the Examination.
- As a result, the ExA is content that the provisions of NPS EN-1 (particularly section 5.3) and NPS EN-3 (particularly paragraphs 2.6.58-2.6.71, 2.6.101 and 2.6.108-109) have been satisfied and that all relevant legislative and policy tests for this topic have been met. In coming to this view, the ExA has taken into account the evidence of the relevant statutory advisors (NE and the MMO) and other IPs

with specialist ornithological expertise, including the RSPB. The ExA has also had regard to the joint LIR [REP1-132] and considers that insofar as it relates to the onshore sites that might support seabird populations, there is no conflict with policy SCLP10.1: Biodiversity and Geodiversity of the Suffolk Coastal Local Plan (September 2020).

- In considering the weight that should be afforded to the significant adverse effects identified above, the ExA has had regard to the precautionary nature of the cumulative impact assumptions and the fact that for some species this is based on potential data uncertainties regarding the H4, DEP and SEP applications that had not been submitted by the end of this Examination. The ExA has also had regard to NPS EN-1 which states that decisions on NSIPs should take account of the context of the challenge of climate change and the recognition that a failure to address this challenge would result in significant adverse impacts to biodiversity. Paragraph 5.3.6 of NPS EN-1 states that *"the benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests"*.
- Overall, the ExA concludes that the effects on offshore ornithology are a medium negative consideration to be carried forward into the overall planning balance.

19. FINDINGS AND CONCLUSIONS IN RELATION TO MARINE MAMMALS

19.1. INTRODUCTION

- 19.1.1. This section considers the effects of the Proposed Development, both alone and cumulatively, on marine mammals. The potential impacts on marine mammal features of European Sites, including the harbour porpoise feature of the Southern North Sea (SNS) Special Area of Conservation (SAC), are considered in detail in Chapter 24 of this Report.

19.2. POLICY CONSIDERATIONS

National Policy Statements

- 19.2.1. Section 5.3 of NPS EN-1 sets out policy in relation to biodiversity impacts in general. In relation to marine mammals, NPS EN-3 states that: "*The [decision maker] should be satisfied that the preferred methods of construction, in particular the construction method needed for the proposed foundations and the preferred foundation type, where known at the time of application, are designed so as to reasonably minimise significant disturbance effects on marine mammals. Unless suitable noise mitigation measures can be imposed by requirements to any development consent the [decision maker] may refuse the application.*"
- 19.2.2. Furthermore, NPS EN-3 states that: "*The conservation status of marine European Protected Species and seals are of relevance to the [decision maker]. The [decision maker] should take into account the views of the relevant statutory advisors.*"

UK Marine Policy Statement, 2011

- 19.2.3. The Marine Policy Statement (MPS) acknowledges at paragraph 3.3.24 that offshore renewable energy developments can potentially have adverse impacts on marine mammals, principally through construction noise.
- 19.2.4. Paragraph 2.6.3.1 of the MPS recognises that: "*Noise resulting from a proposed activity or development in the marine area or in coastal and estuarine waters can have adverse effects on biodiversity although knowledge of the extent of impacts is limited and there are few systematic monitoring programmes to verify adverse effects.*"

East Inshore and East Offshore Marine Plans, April 2014

- 19.2.5. Policy BIO1 of the East Inshore and East Offshore Marine Plans (EIEOMP) states that: "*Appropriate weight should be attached to biodiversity, reflecting the need to protect biodiversity as a whole, taking into account of the best available evidence including on habitats and species that are protected or of conservation concern in the East marine plans and adjacent areas (marine, terrestrial).*"

- 19.2.6. Supporting text at paragraph 215 states that when applying Policy BIO1, consideration should be given to wider biodiversity interests, including areas of ecological importance to highly mobile species such as marine mammals.
- 19.2.7. EIEOMP Policy BIO2 guides that where appropriate, proposals for development should incorporate features that enhance biodiversity.

Local Impact Reports

- 19.2.8. In light of the mainly offshore nature of the matters within this section, no substantive comments were made in the submitted joint LIR [REP1-132] about other policies considered to be important and relevant to the decision.

19.3. THE APPLICANT'S CASE

Information submitted

- 19.3.1. The Applicant's assessment of effects on marine mammals is set out in Chapter 11 of the ES [APP-059] which includes pinnipeds (seals) and cetaceans (whales, dolphins and porpoises). Figures 11.1 to 11.7 [APP-174 to APP-180] and Appendices 11.1 to 11.4 [APP-465 to APP-468] also formed part of the ES for marine mammals.
- 19.3.2. To accompany the application and updated during the course of the Examination, the Applicant also submitted the following documents:
- Offshore In-Principle Monitoring Plan (IPMP): Version 1 [APP-590], Version 2 [REP3-040], Version 3 [REP6-015], Version 4 [REP8-027];
 - Draft Marine Mammal Mitigation Protocol (draft MMMP): Version 1 [APP-591], Version 2 [REP3-042], Version 3 [REP7-030], Version 4 [REP8-029];
 - In-Principle Site Integrity Plan¹⁴ (IPSIP) for the Southern North Sea (SNS) Special Area of Conservation (SAC): Version 1 [APP-594], Version 2 [REP3-044], Version 3 [REP7-031], Version 4 [REP8-031]; and
 - Underwater Noise Modelling Update: Version 1 [REP8-040], Version 2 [REP11-045].
- 19.3.3. The latest versions of each of the above documents, together with the ES, are listed as documents to be certified in Schedule 17 of the Applicant's final dDCO in accordance with Article 36 [REP12-013].

¹⁴ Whilst the primary function of the SIPs relates to mitigation and monitoring for HRA purposes, they are also presented as part of the mitigation package for the marine mammal impact assessment within the ES [APP-059].

Applicant's initial assessment of impacts

- 19.3.4. Pre-application consultation with regard to marine mammals was undertaken as part of the Expert Topic Groups¹⁵. Table 11.2 of [APP-059] sets out the Applicant's identified worst-case project design parameters for marine mammal receptors.
- 19.3.5. Section 11.3.3 of ES Chapter 11 [APP-059] describes the techniques and engineering designs that the Applicant has committed to as mitigation in relation to marine mammals. In addition, proposed marine mammal mitigation is summarised in section 5 of [APP-574]. This includes the following measures:
- A soft-start and ramp-up protocol that is secured in the draft MMMP;
 - A MMMP for piling;
 - A MMMP for unexploded ordnance (UXO) clearance; and
 - Site Integrity Plans (SIPs) in relation to the SNS SAC for both piling and UXO clearance.
- 19.3.6. Table 11.80 of ES Chapter 11 [APP-059] provides a summary of the assessed residual impacts of the Proposed Development on marine mammals during the construction, operation and decommissioning phases on harbour porpoise (*Phocoena phocoena*), grey seal (*Halichoerus grypus*) and harbour seal (*Phoca vitulina*).
- 19.3.7. In support of this assessment, Appendix 11.2 Marine Mammal Information and Survey Report [APP-466] provides justification as to why impacts on other species of marine mammals were not assessed. For cetaceans, sections 11.2.1.4.3 and 11.2.1.5.3 of [APP-466] confirm that white-beaked dolphin, bottlenose dolphin, common dolphin and minke whale have not been included in the impact assessment because on the basis of the survey data, there is deemed to be a "*very low risk of having a significant, if any, impact on these species*". For pinnipeds, section 11.2.1.7 of [APP-466] states that the seal species included within the assessment was agreed with the marine mammal Expert Topic Group at the pre-application stage.
- 19.3.8. Table 11.80 of ES Chapter 11 [APP-059] categorises all of the potential residual impacts from the Proposed Development as being either "*Negligible*" or "*Minor adverse*", with the majority of residual impacts for the construction phase assessed as being "*Minor adverse*" for harbour porpoise, grey seal and harbour seal. The "*Negligible*" residual construction impacts predicted are for a possible behavioural response for harbour porpoise resulting from underwater noise during piling and other construction activities, underwater noise and disturbance from construction vessels, vessel interaction during construction for harbour

¹⁵ As reported in ES Chapter 5 [APP-053] consultees for the marine mammals Expert Topic Group comprised the MMO, NE, The Wildlife Trusts and Whale and Dolphin Conservation.

seal, and changes to prey resource due to displacement for grey seal and harbour seal.

19.3.9. For the operation stage the majority of residual impacts are predicted to be “Negligible” except for the following impacts which are predicted to be “Minor adverse”: Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS) from cumulative sound exposure level (SEL) for all three species due to underwater noise from operational wind turbines. Also, disturbance to harbour porpoise, grey seal and harbour seal due to behavioural change resulting from underwater noise from maintenance activities is categorised as giving rise to “Minor adverse” residual impacts. Displacement of harbour porpoise as a result of changes to prey resource during operation is also assessed as having a “Minor adverse” residual impact. The Applicant states that the residual impacts during decommissioning would be the same or less than those assessed for the construction phase.

19.3.10. Turning to potential cumulative effects on marine mammals, Appendix 11.3 of the ES [APP-467] sets out the Applicant’s Cumulative Impact Assessment (CIA) screening and summarises at Table A11.3.8 the projects screened into the CIA.

19.3.11. Table 11.81 of ES Chapter 11 [APP-059] sets out the predicted cumulative residual impacts for marine mammals. All of the predicted cumulative residual impacts, namely from underwater noise during construction from offshore wind farm (OWF) piling, underwater noise from all other noise sources, changes to prey resources and vessel interaction (collision risk), are predicted to be “Minor adverse” for harbour porpoise, grey seal and harbour seal. The Applicant explains in section 11.11 of [APP-059] that its finding of minor adverse impact takes account of “*the low density of these species across the offshore development area, and a commitment to implement mitigation measures (for example following a MMMP, SIP and exercising best practice)*”.

19.4. PLANNING ISSUES

Inclusion of UXO clearance activities in DMLs

19.4.1. An enduring theme in the Examination related to the Applicant’s proposed inclusion of Unexploded Ordnance (UXO) clearance activities within the draft DMLs for both the proposed generation and transmission assets. The Applicant confirmed [REP1-107] that this would be a novel approach, departing from the established practice of applying for separate marine licences for UXO clearance, if required, in the post-consent stage.

19.4.2. As marine licensing authority, the MMO maintained the position ([REP1-144] and [REP9-060]) that UXO clearance activities would be best controlled through separate marine licence(s), rather than within the DMLs. This stance was based on the high-risk nature of UXO clearance and a view that controlling the activity through a separate marine licence at a later stage may allow for a more up to date assessment to be taken,

including better information about other noisy activities planned in the area within the same timeframe. The administrative complexity of managing multiple UXO clearance activities through DMLs, as opposed to stand alone marine licences, was also advanced as support for the established practice [EV-103].

- 19.4.3. Commenting on the MMO's position, the Applicant contended [REP2-014] that "*an important purpose of the DCO regime is to streamline the consenting process which the Applicants have sought to facilitate by providing an assessment of UXO within the ES and the required conditions within the DMLs*". The Applicant's continued position was that the relevant draft DML conditions require the submission of a UXO method statement, MMMP and SIP prior to any UXO activities taking place, and that through these mechanisms the MMO would have the most up to date information available to inform those subsequent approvals.
- 19.4.4. Without prejudice to its in-principle position, the MMO engaged positively with the Applicant on the drafting of DML conditions relevant to UXO clearance activities throughout the Examination. By the end of the Examination, the MMO confirmed (Table 1 of [REP13-045]) that it was in agreement with the wording of the primary conditions controlling this matter, namely Conditions 16 (DML1) and 12 (DML2) of the Applicant's final draft DCO [REP12-013]. NE also confirmed that it was content with the drafting of these conditions [REP9-069].
- 19.4.5. Following some negotiation on the timescales for the discharge of plans and documents under the UXO clearance condition, it was agreed between the Applicant and the MMO [REP13-045] that the condition would specify at least six months for the MMMP and most parts of the method statement, with detailed plans showing the location of clearance activities and any exclusion zones being required three months prior to the intended start date of the activities [REP12-013]. The six-month timeframe for the submission of the SIP for UXO clearance was welcomed by The Wildlife Trusts (TWT) [REP8-183].

Marine mammal assessment methodology and conclusions

- 19.4.6. From an EIA perspective, Table 2.8 of the final offshore SoCG with NE [REP8-109] indicates a good level of agreement with the Applicant's marine mammal assessment methodology and conclusions, including for cumulative impacts. In [REP10-050], NE noted that it considered all items associated with marine mammals to be resolved. This followed the Applicant's agreement to make a number of changes to the wording of draft DML conditions related to the mitigation of marine mammal effects which are considered in more detail below.

- 19.4.7. Table 2.12 of the final SoCG with the MMO¹⁶ [REP12-073] also documents agreement with the Applicant's marine mammal assessment methodology and conclusions. This was subsequent to further underwater noise modelling work by the Applicant ([REP8-040], updated at [REP11-045]) to address concerns raised by the MMO in [REP8-156] that sequential modelling of monopile foundations within a 24-hour period should be included. The MMO confirmed its satisfaction with the updated modelling in section 4 of [REP11-114].
- 19.4.8. The SoCG with TWT¹⁷ [REP8-123] records a number of areas in which, whilst there was agreement that discussion on the matter was closed, there remained substantive differences between the Applicant's assessment of effects and the position of TWT. At the end of the Examination, TWT maintained the following objections [REP8-123] [REP8-183] [REP12-100]:
- A strategic concern about differing approaches to determining sensitivity and magnitude of marine mammal effects between different OWF developers, making like-for-like comparison across different projects difficult;
 - An inability to agree with the assessment conclusions for both the project alone and cumulatively with other projects, in part due to perceived weaknesses in the proposed monitoring of underwater construction noise during piling upon which the assessment conclusions of residual impact rely (discussed later in this Chapter); and,
 - A contention that commercial fishing activities should be treated as a plan or project and as such included in the cumulative (and in-combination) assessments, as opposed to the Applicant's approach of including them as a part of the environmental baseline for the marine mammal assessment [RR-091].
- 19.4.9. On the latter point, TWT's position [RR-091] was underpinned by an argument that fishing is a licensable ongoing activity that has the potential to adversely impact on the marine environment, and that this position is supported by European case law (the 'Waddenzee case'¹⁸) and Defra policy. The Applicant's rationale was that since commercial fishing has been a long-standing activity in the North Sea, existing long before the construction of any OWFs, its potential effects on marine mammals (including by-catch and loss of prey species) are most appropriately treated as a part of the environmental baseline [AS-036] [REP8-123].
- 19.4.10. TWT [RR-091] referred to judicial review proceedings which it had commenced against the decision to grant development consent for the

¹⁶ [REP8-132] is also labelled as 'final signed version' of the MMO SoCG but this was superseded by [REP12-073] following the decision to extend the Examination.

¹⁷ In [RR-091], TWT confirmed that its interests in this Examination related mainly to marine mammals matters, while Suffolk Wildlife Trust provided representations with regard to onshore ecology.

¹⁸ TWT refers to case C-127/02 Waddenzee [2004] ECR I-7405

Dogger Bank Teesside OWF projects on similar grounds. TWT [REP8-123] also pointed to the HRA undertaken for the Review of Consents for the SNS SAC (BEIS, September 2020)¹⁹ in which fishing was categorised as an 'on-going activity', considered as being equivalent to either Tier 1 or Tier 2 projects for the purposes of cumulative or in-combination assessment. The Applicant countered that its approach had been agreed with NE through the relevant Expert Topic Group at the pre-application stage [REP8-123]. This appears to be corroborated in Table A11.1.1 of [APP-465]. The Applicant further submitted that its approach was consistent with that taken by the Secretary of State (SoS) in the Appropriate Assessments for both the Hornsea Project Three and Norfolk Vanguard²⁰ OWFs [REP8-123]. This matter was unresolved at the close of Examination.

- 19.4.11. Whale and Dolphin Conservation (WDC) submitted a relevant representation [RR-090] which focused on the potential effects on the harbour porpoise feature of the SNS SAC, and therefore its submissions are principally dealt with in Chapter 24 of this Report. However, WDC's RR also made some more general submissions about the potential for cetaceans to be disturbed and displaced, particularly as a result of underwater noise generated at all stages of the Project, and most notably at the construction stage. It made the case that foundations requiring piling should not be used, further assessment of the effects of alternative foundations on marine mammals and prey species should be undertaken, and effective noise-reducing measures should be applied where any piles are driven [RR-090].
- 19.4.12. The Applicant responded to these points in Table 67 of [AS-036]. The response stated that while the Applicant was considering a range of foundation options for the Project, the final decision about foundation types would be made in the detailed design stage, based on ground condition suitability, water depths and turbine models. The Applicant was clear that for these reasons, "*pile-less foundations may not be feasible for the Project from both a commercial and practical standpoint*" [AS-036]. By reference to relevant sections of the ES [APP-059], the Applicant described how it envisaged that the MMMP and SIP would provide embedded and, where necessary (on the basis of the best available information at the time of approval), additional mitigation to prevent the risk of any physical or permanent auditory injury to marine mammals.
- 19.4.13. The ExA asked (ExQ1.2.47 [PD-018]) WDC to confirm whether it planned to make further submissions to the Examination and whether the Applicant's comments [AS-036] on its RR had altered its position. No response to ExQ1.2.47 was received from WDC. However, the Applicant

¹⁹ This document is publicly available at the following link:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921754/RoC_SNS_SAC_HRA_FINAL.pdf

²⁰ Note that the decision to grant development consent for Norfolk Vanguard OWF was quashed and the application will be redetermined, see Section 19.5 of this Report.

submitted a copy of email correspondence from WDC [REP1-087] dated 15 April 2020, explaining that due to resource limitations the organisation would not be able to engage further with the Examination. No further Examination submissions were received from WDC subsequent to [RR-090] and no SoCG was entered into.

Marine mammal mitigation

- 19.4.14. Mechanisms for the control of underwater noise, including the substance of draft mitigation plans and the wording of DML conditions required to secure marine mammal mitigation, were key themes throughout the Examination of this topic.
- 19.4.15. The Applicant's commitments to controlling and restricting concurrent pile driving and UXO clearance activities to avoid exceedance of thresholds for disturbance to harbour porpoise as a feature of the SNS SAC, which it agreed during the Examination to include as draft DML conditions (Condition 28 of DML1 and Condition 24 of DML2 [REP12-013]), are discussed in Chapter 24 of this Report and not repeated here.
- 19.4.16. The submitted IPSIP [APP-594] was revised a number of times throughout the Examination, with [REP8-031] being the final version. The Applicant clarified ([REP1-107], response to ExQ1.2.40) that it expects a single SIP, covering generation and transmission assets, to be produced for piling and another SIP for UXO clearance. Since the primary purpose of the IPSIP is to set out the approach to delivering measures to ensure avoidance of an Adverse Effect on Integrity (AEOI) of the designated features of the SNS SAC, matters relating to the detailed content and substance of the IPSIP are discussed in Chapter 24 of this Report and not repeated here.
- 19.4.17. The purpose of the draft MMMP is to demonstrate the principles of the final MMMP, which would be submitted for approval prior to the commencement of construction of the Proposed Development. The intention of the final MMMP would be "*to prevent injury to marine mammals, following current best practice as advised by the relevant statutory nature conservation bodies*" [REP12-013]. The submitted draft MMMP [APP-591] was updated several times during the Examination, culminating in the final draft MMMP at [REP8-029]. Whilst the draft MMMP covers both piling and UXO clearance, the Applicant has confirmed that it is envisaged that final MMMPs would be produced for piling and UXO clearance activities separately ([REP1-107], response to ExQ1.2.43). The Applicant's final dDCO [REP12-013] secures the draft MMMP through conditions 16 and 17 of DML1 and conditions 12 and 13 of DML2.
- 19.4.18. Significant issues explored during the Examination pertaining to the draft MMMP included clarification of the meaning of UXO detonation (addressed in section 4 of [REP8-029]) and debate about the inclusion of clustering of UXO as a potential mitigation measure (which was eventually removed from the document following advice from NE). Following discussions with IPs, the draft MMMP was updated to name TWT alongside the SNCBs as a

consultee for the development of the final MMMPs in the post-consent phase (see section 1.2 of [REP8-029]).

- 19.4.19. In [REP8-123], TWT supported the use of a MMMP and SIP for the management of piling activities but emphasised the importance of monitoring to verify the effectiveness of mitigation. Due to concerns about the adequacy of the construction monitoring proposals, and particularly the commitment to monitoring noise levels on the first four piles, TWT was unable to agree that the proposed mitigation for the effects of piling on marine mammals would be adequate. In addition to this, TWT maintained concerns that the efficacy of methods for the mitigation of UXO clearance effects were not scientifically verified to ensure that a Permanent Threshold Shift (PTS) impact would be avoided.
- 19.4.20. On this latter point, the Applicant stated [REP8-123] that the draft MMMP secures mitigation options such as the use of bubble curtains and low-order techniques such as deflagration (which causes UXOs to burn out without detonating), whilst the dDCO prevents concurrent piling and UXO detonations and restricts noisy events at the most sensitive times of the year (see Table 19.1, below). All of these measures, the Applicant argued, would reduce the potential of a PTS impact occurring.
- 19.4.21. By the end of the Examination, the Applicant's proposed package of mitigation measures for marine mammals was agreed with NE (Table 2.8 of [REP8-109]) and the MMO (Table 2.12 of [REP12-073]). This included agreement with the content of the draft MMMP [REP8-029] and IPSIP [REP8-031]. Due to the reservations discussed above, TWT did not confirm its agreement with the Applicant's mitigation package before the end of the Examination [REP8-123].
- 19.4.22. Questions relating to the appropriate means for securing the implementation of marine mammal mitigation measures were also a feature of the Examination. By the time that it closed, and following detailed discussions involving the Applicants, NE, the MMO and TWT, the draft DMLs [REP12-013] contained a series of provisions to secure mitigation for marine mammal effects. These are summarised in Table 19.1, below.

Table 19.1: Marine mammal mitigation measures secured in the draft DMLs [REP12-013]

Draft DML1 Schedule 13 (generating assets)	Draft DML2 Schedule 14 (transmission assets)	Marine mammal mitigation measures
Condition 16	Condition 12	UXO clearance - (1)(a) method statement - (1)(b) MMMP - (5) close out report

Draft DML1 Schedule 13 (generating assets)	Draft DML2 Schedule 14 (transmission assets)	Marine mammal mitigation measures
Condition 17	Condition 13	Pre-construction plans and documents - (1)(f) MMMP for piled foundations - (2) Maximum hammer energies for piling activities
Condition 25	Condition 21	Co-operation - (1)-(4) sharing pre-construction plans and documentation between the undertakers of EA1N and EA2
Condition 26	Condition 22	SNS SAC SIP (Piling) - (1)-(4) SIP approval
Condition 27	Condition 23	SNS SAC SIP (UXO Clearance) - (1)-(4) SIP approval
Condition 28	Condition 24	Control of piling and UXO detonation - (1)-(2) Limits on concurrent piling/UXO clearance - (3)-(4) Winter period restriction
Condition 31	Condition 27	Completion of construction - (1) Close out report - (2) No further construction

- 19.4.23. The draft DML provisions to secure the implementation of the marine mammal mitigation measures [REP12-013] were agreed by NE (Table 2.8 of [REP8-109]) and the MMO (Table 2.12 of [REP12-073]) before the closure of the Examination, however agreement from TWT was not confirmed.

Monitoring the effects on marine mammals

- 19.4.24. Another core theme of the Examination related to commitments to monitoring marine mammal effects. The Applicant's guiding principles for monitoring effects on marine mammals are set out in section 1.7.6 of the Offshore IPMP, which was submitted with the Application [APP-590] and subsequently updated a number of times in response to ongoing discussions with IPs during the Examination. The final submitted version is [REP8-027].
- 19.4.25. Table 4 of the IPMP [REP8-027] summarises the main monitoring proposals for marine mammals. This covers construction monitoring for piling, joint harbour porpoise monitoring with the other East Anglia

project and East Anglia THREE using passive acoustic monitoring (PAM) devices and the monitoring proposed through the MMMP and SIP.

- 19.4.26. Of particular debate during the Examination was the matter of construction monitoring, which was explored orally at ISH1 [EV-034c], ISH3 [EV-049], ISH7 [EV-102] [EV-103] and ISH14 [EV-126e] [EV-126f]. By the end of the Examination, the Applicant had agreed to include a commitment in the draft DMLs (Condition 21 of DML1 and Condition 17 of DML2 [REP12-013]) to measure the noise generated by the installation of the first four piled foundations, to report the results to the MMO within six weeks and, should the assessment show significantly different impacts to those assessed in the ES, to cease piling, pending updates to the MMMP. In the IPMP, the Applicant commits to one of the first four piles being at a location anticipated (through detailed ground investigations) to generate the greatest underwater noise emissions.
- 19.4.27. The content of the IPMP [REP8-027] has been agreed with the MMO [REP9-060] and NE [REP9-063]. TWT welcomed the commitment to monitor harbour porpoise using PAM and expressed interest in the results of ongoing harbour porpoise monitoring in the area. However, TWT remained dissatisfied that monitoring of underwater noise levels would only occur during the construction of the first four piles, stating *“there is a missed opportunity to coordinate the harbour porpoise monitoring programme...with further underwater noise monitoring in order to have a complete and accurate picture of the impacts of the construction programme”* [REP8-183].
- 19.4.28. The Applicant responded [REP9-015] that monitoring the first four piles, combined with PAM monitoring, would provide an accurate picture of the potential impacts on harbour porpoise in the vicinity of the Proposed Development during construction and would build on the monitoring undertaken at East Anglia ONE. The matter remained in contention at the end of the Examination.
- 19.4.29. Table 19.2 summarises the monitoring provisions for marine mammal effects secured in the draft DMLs by the end of the Examination. This position was agreed by NE [REP8-109] and the MMO [REP12-073].

Table 19.2: Marine mammal monitoring commitments secured in the draft DMLs [REP12-013]

Draft DML1 Schedule 13 (generating assets)	Draft DML2 Schedule 14 (transmission assets)	Marine mammal monitoring measures
Condition 17	Condition 13	Pre-construction plans and documentation - (c) monitoring plan to accord with certified IPMP
Condition 20	Condition 16	Pre-construction monitoring and surveys

Draft DML1 Schedule 13 (generating assets)	Draft DML2 Schedule 14 (transmission assets)	Marine mammal monitoring measures
		- (2)(c) marine mammal monitoring required by the final monitoring plan
Condition 21	Condition 17	Construction monitoring - (1) submit measurements of noise generated by installation of first four piled foundations - (3) cessation of piling if exceedance of impacts assessed in the ES
Condition 22	Condition 18	Post construction - (2)(c) marine mammal monitoring required by the final monitoring plan
Condition 23	Condition 19	Reporting of impact of pile-driving/ detonation of explosives - (1)-(3) submission of information to Marine Noise Registry before and after impulsive noise generating activities

19.5. ExA RESPONSE

Inclusion of UXO clearance activities in DMLs

- 19.5.1. The question as to whether it would be appropriate to include UXO clearance activities within the DMLs (as opposed to within separate marine licences at the post-consent stage) was examined:
- in writing, through EXQ1.2.26 [PD-018] and in written submissions throughout the Examination; and,
 - orally at ISH1 [EV-034c], ISH3 [EV-049], ISH7 [EV-102] [EV-103] and ISH14 [EV-126e] [EV-126f].
- 19.5.2. The ExA has carefully considered the arguments in favour of, and against, the Applicant's proposed approach, as summarised in the Planning Issues section of this Chapter.
- 19.5.3. The ExA is mindful that UXO clearance, which usually involves the detonation of ordnance *in situ*, is a high-risk and relatively specialised activity, with the potential for serious effects on marine mammals and other marine life due to underwater noise. The MMO's reservations about the inclusion of these activities within DMLs with a much broader scope, contrary to recent practice on other OWFs, are understood.

- 19.5.4. However, the Applicant's argument that one of the core tenets of the Planning Act 2008 regime is to streamline consents and licences for the delivery of nationally significant infrastructure is an important consideration. Removing the need to apply for one or more separate marine licences in the post-consent stage has the potential to shorten and simplify the pre-construction period. In considering this matter, the ExA is mindful that the Applicant has, during the course of the Examination, reduced the commencement period stipulated in Requirement 1 of its dDCO [REP12-013] from a maximum of seven years to five years to reflect the ambition to bring forward the delivery of the Proposed Development in line with the East Anglia Hub concept [REP5-030].
- 19.5.5. Whilst there may be some administrative ease in controlling UXO clearance through separate, stand-alone MLs, this needs to be weighed against the benefits of taking an opportunity to streamline consenting, when there is an urgent need for the deployment of new offshore wind capacity, as enshrined by national policy and underlined by emerging Government policy (see Chapter 3 of this Report).
- 19.5.6. The ExA is clear that final approvals on UXO clearance activities need to be able to take account of the effects of the Proposed Development cumulatively with other planned noisy activities in the area at the time, and of any changes to scientific knowledge about the ecological effects of OWF construction. Having considered the guiding principles set out in the draft MMMP and draft SNS SAC SIP, together with the parameters of the UXO method statement described in draft DML Conditions 16 (DML1) and 12 (DML2), the ExA is content that the MMO's subsequent decisions on those documents will allow for an up to date assessment of the effects to be undertaken, based on the best available information about other noisy activities planned in the same location and timeframe.
- 19.5.7. Consequently, in the ExA's view, there would be little difference between the information and evidence available to the MMO at the time of final approvals pertaining to UXO clearance in this case and the more established practice of controlling the activity through a separate marine licence at the post-consent stage.
- 19.5.8. Furthermore, it is clear from submissions to this Examination that mechanisms are being developed for the management of underwater noise arising from the range of planned projects in the southern North Sea [REP11-116]. There has been no evidence submitted to indicate that these evolving mechanisms would not be able to take account of UXO clearance activities permitted by DMLs.
- 19.5.9. The ExA is satisfied that the relevant provisions of the draft DMLs [REP12-013], most notably Conditions 16 and 27 of draft DML1 and Conditions 12 and 23 of draft DML2, adequately secure the necessary controls and noise mitigation measures to ensure that UXO clearance activities are undertaken in a way that minimises disturbance effects on marine mammals.

- 19.5.10. Subsequent approval of the UXO method statement, MMMP and SNS SAC SIP by the MMO in consultation with the SNCB (and where relevant the MCA) is secured in [REP12-013] and there is sufficient clarity about the expected content and standard of each of those documents. The ExA considers that the timescales for submission and determination of subsequent plans and documents (six months, with three months for some locationally specific plans), as set out in the relevant Conditions, are reasonable in the context of the scale and complexity of the Proposed Development.
- 19.5.11. Consequently, the ExA's recommended DCO includes the UXO clearance conditions (Condition 16 and 27 of DML1 and Conditions 12 and 23 of DML2) without amendment to the drafting agreed in [REP12-013]. The MMO's willingness to engage with the drafting of relevant DML conditions, despite its preference that they should not be included, has been extremely helpful in achieving drafting that is mutually acceptable and avoiding the need for the ExA to recommend that the SoS undertakes further consultation on this matter.

Marine mammal assessment methodology and conclusions

- 19.5.12. The ExA has considered the Applicant's marine mammal assessment, as submitted in [APP-059] and as updated by further underwater noise modelling work during the Examination [REP11-045]. This was explored through both written questions (including ExQ1.2.33 [PD-018], ExQ3.2.24 [PD-030]) and in hearings (ISH1 [EV-034c], ISH3 [EV-049], ISH7 [EV-102] [EV-103] and ISH14 [EV-126e] [EV-126f]).
- 19.5.13. The ExA has also had regard to the outstanding objections of TWT and WDC, as discussed under the Planning Issues section of this Chapter. The ExA considers that TWT's comments about the differing approaches to determining the sensitivity and magnitude of marine mammal effects between different OWF developers, whilst related to assessment methodology, is a more strategic matter. Whilst an ability to make like-for-like comparisons between different OWF projects through a common assessment methodology makes logical sense, that is not to say that there are inherent flaws in the methodology adopted by the Applicant in this case.
- 19.5.14. TWT's disagreement with the assessment conclusions is underpinned by concern about the proposed monitoring of underwater construction noise upon which the conclusions of residual impact rely. The ExA's consideration of the Applicant's underwater construction noise monitoring provisions is set out in a later section of this Chapter.
- 19.5.15. Turning to the outstanding concerns of WDC, the ExA is satisfied that the Applicant has adequately assessed the realistic worst-case scenario in terms of the foundation types that may be used [APP-059] [APP-054]. The ExA accepts the Applicant's case (Table 67 of [AS-036]) that it is not able to determine whether 'pile-less' foundations would be commercially

or practically feasible for the Proposed Development until the detailed design stage has been reached.

- 19.5.16. At Deadline 3, the Applicant submitted a project update note [REP3-052] which (amongst other things) added monopile foundations as a fourth option for the offshore platforms. The ExA explored the implications of this addition for underwater noise receptors at ISH3 [EV-047]. The Applicant explained [EV-047] [REP5-026] that the worst-case scenario associated with the offshore platform monopile is identical to that for a wind turbine monopile (ie 15m diameter, 4000kJ maximum hammer energy and located within the offshore windfarm site). As a result, it was the Applicant's view that this fell within the originally assessed Rochdale Envelope for monopile foundations [APP-059].
- 19.5.17. After some initial concerns with this approach [REP5-075], and further explanation from the Applicant [REP6-029], the MMO was able to agree with the Applicant's reasoning without the need for further noise modelling (Section 8.5 of [REP8-156]). NE was also content on the matter [REP5-089]. On consideration of the evidence, the ExA is satisfied that the use of monopile foundations for the offshore platforms falls within the worst-case scenario that has been assessed within the ES [APP-059].
- 19.5.18. The ExA has given close consideration to the submissions from TWT that commercial fisheries should be included as a plan or project in the cumulative impact assessment, rather than the Applicant's approach of treating them as part of the environmental baseline [RR-091]. Evidence was advanced by both TWT [RR-091] [REP8-123] and the Applicant [AS-036] [REP8-123] in support of their respective positions.
- 19.5.19. The ExA has reviewed the publicly available HRA undertaken for the Review of Consents for the SNS SAC (BEIS, September 2020) and notes the statement that: *"It is recognised that the potential on-going impacts on harbour porpoise from current activities that have had a long historical presence within the SAC...are captured within the baseline and are not considered to be significantly affecting the harbour porpoise population, which is in favourable condition. For on-going activities, e.g. fishing and shipping, it is not possible to determine what the baseline conditions would be without the impacts that these activities have on the current harbour porpoise populations or their prey. However, the activities may be considered as plans and therefore are included within the HRA; this includes on-going impacts from fishing and shipping"* (paragraphs 15.4-15.5)¹⁹.
- 19.5.20. The ExA has also considered the approach taken in the Hornsea Project Three Habitats Regulation Assessment and Marine Conservation Zone Assessment (BEIS, December 2020)²¹ and set out in section 5.9.2 of that

²¹ This document is publicly available at the following link:
<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-003267->

report. In that case, similar representations were made by TWT. The SoS's reasoning in that case followed the recommendation of that ExA: *"The ExA's view is that, from a practical point of view, if the effects of the on-going activity have already been assessed in the baseline then it would not serve the purpose of the legislation to assess the effects of a continuing, existing activity for a second time unless there is evidence to suggest that a new licence is being applied that will seek to intensify or extend the fishing. As the ExA had no such evidence presented at examination and no indication of future fishing activity they conclude that fishing activity should not have been included as an in combination effect and that the conclusions of the ES...and RIAA²²...therefore remain valid"*. In that case, the SoS therefore agreed with the ExA in finding that commercial fishing could be considered in the environmental baseline and should not be considered as an in-combination effect.

- 19.5.21. The Applicant has also referred the ExA to the approach taken by the SoS in the Appropriate Assessment for the Norfolk Vanguard OWF project [REP8-123]. However, since the decision to grant development consent for that project has since been quashed²³ and the application will be redetermined, the Appropriate Assessment in that case carries very little weight in the ExA's consideration of the Proposed Development.
- 19.5.22. Notwithstanding this, it is clear that there are examples of approaches on both sides of the argument being adopted in recent OWF decision making. In ExQ1.2.33 [PD-018], the ExA asked NE for its view on the soundness of the Applicant's approach. NE's response [REP1-159] did not dispute the Applicant's assertion that it had agreed the methodological approach through the Expert Topic Group at the pre-application stage, albeit that this agreement was reached in March 2018, some time before the BEIS/SoS decisions cited above. NE stated: *"(w)here there is ongoing fishing activity on the site, it is appropriate to consider the effects of the plan or project that is the subject of the assessment in the context of those prevailing conditions, of which fishing impact may be one"* [REP1-159].
- 19.5.23. Taking all of this evidence into account, the ExA recognises that as a licensable activity, there is the potential for any new commercial fishing licence application (or renewal application) to be a plan or project that should be included in assessments of cumulative and in-combination effects. In the case of the Proposed Development, the effects of the existing fishing activity have been assessed as part of the baseline. To the ExA, it does not seem logical or necessary to assess the continuation of existing fishing activity a second time, unless the evidence indicates that there is the realistic prospect of a new licence being applied for that would increase the effects (for example in terms of by-catch or loss of

[EN010080%20Hornsea%20Three%20-%20Habitats%20Regulations%20Assessment.pdf](#)

²² Report to Inform Appropriate Assessment

²³ [2021] EWHC 326 (Admin), High Court judgement dated 18/02/2021
https://www.judiciary.uk/wp-content/uploads/2021/02/RAYMOND-STEPHEN-PEARCE-judgment-FINAL18-02-2021_.pdf

prey) of the existing activity, such as through extension or intensification of the fisheries. No such evidence has been submitted to the Examination.

- 19.5.24. On this basis, the ExA is content that the Applicant's approach of including on-going commercial fishing as part of the environmental baseline is robust and that the conclusions of the ES [APP-059] therefore remain valid. The treatment of commercial fisheries in the Applicant's in-combination assessment with respect to European Sites is considered in Chapter 24 of this Report.
- 19.5.25. Having considered all of the evidence and relevant Examination submissions on this matter, it is the ExA's view that the Applicant's assessment of effects of the Proposed Development on marine mammals is adequate, both in terms of the methodology adopted and the resulting conclusions. This includes consideration of the cumulative effects of the Proposed Development together with the other East Anglia project and proposals. In arriving at this opinion, the ExA has taken into account the views of the relevant statutory advisors, particularly NE and the MMO, with whom there is general agreement about the methodology and conclusions of the Applicant's marine mammal assessment [REP8-109] [REP10-050] [REP11-114] [REP12-073].

Marine mammal mitigation

- 19.5.26. The proposed mitigation measures for the potential effects on marine mammals were examined through written questions (EXQs1.2.29-31, ExQs1.2.35-37, ExQs1.2.40-43 [PD-018], ExQs3.2.22-23 [PD-049]) and orally at ISH1 [EV-034c], ISH3 [EV-049], ISH7 [EV-102] [EV-103] and ISH14 [EV-126e] [EV-126f].
- 19.5.27. The ExA notes the agreement of NE and the MMO with both the content of the draft MMMP [REP8-029] and IPSIP [REP8-031], and the means to secure them and limit concurrent piling and UXO detonations through the conditions of the draft DMLs [REP12-013].
- 19.5.28. The ExA is mindful of TWT's concerns, which remained at the close of Examination, about the efficacy of methods for the mitigation of UXO clearance effects in avoiding a PTS impact on marine mammals. The methods for mitigation of UXO clearance activities were explored in some detail at ISH7 [EV-089 – agenda item 3(c)(i)] [EV-103]. In that hearing, the MMO explained that data was in the process of being gathered about the commercial availability and effectiveness of low order techniques such as deflagration. It stated that although not currently widely considered to be commercially available technology, the MMO anticipates that low order deflagration will soon become standard primary technique for UXO detonations across all offshore industries ([EV-103], minutes 1:00-7:00).
- 19.5.29. The Applicant was clear that the draft MMMP [REP8-029] allows for a range of possible mitigation measures for UXO clearance activities and has sought to be inclusive, rather than exclusive, of options in order to

enable use of the best practicable means at the time to mitigate the impacts of the Proposed Development [EV-103].

- 19.5.30. The ExA notes that the draft MMMP (section 5.1) commits to including within the final MMMP mitigation to prevent the risk of any physical or permanent auditory injury to marine mammals as a result of UXO clearance activities. Appendix 1 to the draft MMMP [REP8-029], which was added during the Examination in response to issues raised by IPs and the ExA, sets out the range of mitigation measures that could be drawn upon, including use of Acoustic Deterrent Devices, scare charges/UXO soft start procedure and alternative techniques such as low order deflagration or bubble curtains. In that Appendix, the Applicant demonstrates how those measures could be used to ensure that no harbour porpoise, grey seal and harbour seal are in the potential impact range for PTS SEL from the largest UXO detonation (maximum charge weight of 700kg).
- 19.5.31. On the basis of these commitments, and of controls in the dDCO (most notably Conditions 16 and 28 of DML1 and Conditions 12 and 24 of DML2 [REP12-013]), the ExA takes the view that there would be sufficient safeguards in place to minimise the potential for a PTS impact as a result of the Proposed Development, either alone or cumulatively with other projects, including the other East Anglia Application.
- 19.5.32. In terms of noise effects from piling, the ExA notes that TWT was also unable to agree that the proposed mitigation would be acceptable due to concerns about the adequacy of the construction monitoring. This matter is discussed in the next section of this Chapter.
- 19.5.33. Overall, the ExA is satisfied that the package of mitigation measures identified in the ES [APP-059] and the Offshore Schedule of Mitigation [APP-574] for the potential effects on harbour porpoise, grey seal and harbour seal are effectively implemented through the draft MMMP [REP8-029] and IPSIP [REP8-031]. The ExA is also content that the draft DML conditions [REP12-013] summarised in Table 19.1 (above) serve to secure these commitments. The ExA acknowledges that the draft MMMP and IPSIP are framework documents, setting the guiding principles for the detailed documents that must be submitted for approval prior to construction. This, in the ExA's view, is an appropriate approach providing a reasonable level of flexibility in light of the scale of this project and the pace of technological advancements and dynamic nature of scientific knowledge in the field of offshore wind.
- 19.5.34. Consequently, the ExA finds that through its embedded and additional mitigation, the Applicant has reasonably minimised significant disturbance effects on marine mammals from both the project alone and cumulatively with other proposals. Where necessary, suitable noise mitigation measures have been appropriately secured by conditions on the two draft DMLs [REP12-013].

Monitoring the effects on marine mammals

- 19.5.35. The ExA explored marine mammal monitoring through written questions (ExQs1.2.44-1.2.46 of [PD-018]) and in ISH1 [EV-034c], ISH7 [EV-102] [EV-103] and ISH14 [EV-126e] [EV-126f].
- 19.5.36. The IPMP [REP8-027] is a certified document pursuant to Article 36 of the draft DCO [REP12-013]. It sets the guiding principles for pre-construction surveys, baseline report format and content, construction monitoring, post-construction monitoring and related reporting in accordance with Conditions 17, 20, 21, 22 and 23 of draft DML1 and Conditions 13, 16, 17, 18 and 19 of draft DML2. A final monitoring plan, which accords with the IPMP, must be submitted to and approved by the MMO prior to commencement of any of the licensed activities of the DMLs.
- 19.5.37. The ExA has deliberated on the TWT submissions about the adequacy of the underwater noise construction monitoring discussed above ('Planning Issues') [REP8-183]. This is detailed in Condition 21 of draft DML1 and Condition 17 of draft DML2 [REP12-013]. The ExA notes that TWT was dissatisfied with the Applicant's proposal to limit the monitoring of underwater noise levels during the construction period to the first four piles. TWT promoted [REP8-183] a more sustained programme of construction monitoring, to complement the pre- and post-construction harbour porpoise monitoring measures set out in the IPMP [REP8-027].
- 19.5.38. The ExA acknowledges that there could be benefits to having a more sustained programme of construction monitoring associated with the Proposed Development, not least to assist in developing a more detailed understanding of the construction effects on harbour porpoise. However, mindful of the potential cost and resource implications, proposals for monitoring also need to be, in the ExA's view, reasonable and proportionate.
- 19.5.39. The Applicant has committed to one of the first four piles to be monitored being at a location expected to generate the greatest underwater noise emissions [REP8-027]. The ExA considers that this, together with the use of Passive Acoustic Monitoring devices to monitor echolocation clicks and determine potential behavioural impacts, represents a proportionate monitoring response to the relatively modest scale of residual construction impacts on harbour porpoise identified in the ES [APP-059] for the Proposed Development alone and cumulatively.
- 19.5.40. Consequently, the ExA supports the construction monitoring commitments that have been proposed by the Applicant and agreed with NE and the MMO [REP8-027] (as summarised in Table 19.2) with no amendments. Since the ExA does not consider that a case has been demonstrated that the construction monitoring commitments are deficient, it follows that the ExA does not find substance in TWT's submissions that inadequate monitoring of piling activities renders the Applicant's assessment conclusions flawed.

- 19.5.41. Overall, the ExA is content that monitoring measures commensurate with the scale and nature of the potential residual impacts on marine mammals identified in the ES [APP-059] have been secured. The ExA acknowledges that the IPMP is based on an adaptive approach to monitoring and that final monitoring plans will need to take account of the most up to date information and evidence available at that time. The ExA considers that the IPMP, alongside the MMMP and SIP, provides a suitable framework for finalisation of marine mammal monitoring plans in the post-consent phase. The ExA considers that the MMO's agreement to these provisions signal its willingness and capacity to resource discharge of the relevant DML conditions.

19.6. CONCLUSION ON MARINE MAMMALS

- For the reasons set out above, the ExA takes the view that the case has been made for the inclusion of UXO clearance activities within the DMLs for the Proposed Developments. The relevant draft Conditions from [REP12-013] are included without amendment in the ExA's rDCO.
- The ExA considers that the ES, taken together with the additional clarification material submitted during Examination (summarised above), presents an adequate assessment of the potential effects on marine mammals from both the Proposed Development alone and cumulatively with other proposals, including the other East Anglia Application.
- Having regard to the ES and the relevant evidence of all parties to the Examination, it is the ExA's view that there is the potential for minor adverse residual effects on marine mammals as a result of the Proposed Development. These effects relate principally to the disturbance effects of underwater construction noise on harbour porpoise, grey seal and harbour seal. There is also the potential for PTS and TTS from cumulative sound exposure level for all three species due to underwater noise effects in the operation stage.
- On a cumulative basis with other developments, the ExA finds that there is the potential for minor adverse residual effects on harbour porpoise, grey seal and harbour seal during the construction and operational stages due to underwater noise from piling and other noise sources, changes to prey resources and vessel interaction (collision risk).
- The ExA considers that a suitable package of mitigation measures has been secured by the end of the Examination, including embedded mitigation such as soft start piling, the requirement for approval of MMMPs and SIPs prior to construction and the ability to stop piling should monitoring indicate that assessed noise thresholds have been exceeded.
- The ExA is therefore satisfied that the methods of construction for the offshore elements of the Proposed Development have been designed so as to reasonably minimise significant disturbance effects on marine mammals. It is also clear to the ExA that mechanisms have been put in place to secure suitable noise mitigation measures in the conditions of the draft DMLs [REP12-013].

- As a result, the ExA is content that the provisions of NPS EN-3 (and particularly paragraphs 2.6.94-95) have been satisfied and that all relevant legislative and policy tests for this topic have been met. In arriving at this view, the ExA has taken into account the evidence of the relevant statutory advisors and other IPs with specialist ecological expertise, including TWT and WDC. There are no matters of direct relevance to the effects on marine mammals raised through the joint LIR [REP1-132].
- Overall, the ExA concludes that the effects on marine mammals are a low negative consideration to be carried forward into the overall planning balance.

20. FINDINGS AND CONCLUSIONS IN RELATION TO OTHER OFFSHORE BIODIVERSITY EFFECTS

20.1. INTRODUCTION

20.1.1. This Chapter considers the effects of the Proposed Development, both alone and cumulatively, on the following matters:

- Benthic ecology;
- Fish and shellfish ecology; and
- Marine designated sites and other offshore biodiversity matters.

20.2. POLICY CONSIDERATIONS

National Policy Statements

20.2.1. Section 5.3 of the Overarching National Policy Statement for Energy EN-1 (NPS EN-1) sets out policy in relation to biodiversity impacts in general. Paragraph 5.3.7 states that: *"As a general principle, and subject to the specific policies below, development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives ... where significant harm cannot be avoided, then appropriate compensation measures should be sought."*

20.2.2. Paragraph 2.6.59 of the National Policy Statement for Renewable Energy Infrastructure EN-3 (NPS EN-3) lists fish and seabed habitats among the biodiversity considerations to which regard needs to be had. Paragraph 2.6.62 of NPS EN-3 states that: *"Evidence from existing offshore wind farms demonstrates that it has been possible to locate wind farms in ecologically sensitive areas where careful siting of turbines has been undertaken following appropriate ecological surveys and assessments."*

20.2.3. In regard to fish, paragraph 2.6.74 of NPS EN-3 requires that the applicant should identify fish species that are the most likely receptors of impacts with respect to spawning grounds, nursery grounds, feeding grounds, over-wintering areas for crustaceans and migration routes.

20.2.4. NPS EN-3 also considers that any consent that is granted should be flexible to allow for necessary micro-siting of elements of the proposed windfarm to allow for unforeseen events.

UK Marine Policy Statement, 2011

20.2.5. Paragraph 2.6.1.3 of the Marine Policy Statement (MPS) states that: *"As a general principle, development should aim to avoid harm to marine ecology, biodiversity and geological conservation interests (including geological and morphological features) and, including through location, mitigation and consideration of reasonable alternatives. Where significant harm cannot be avoided, then appropriate compensatory measures should be sought."*

- 20.2.6. The MPS acknowledges at paragraph 3.3.24 that offshore renewable energy developments can potentially have adverse impacts on marine fish, principally through construction noise, and they may displace fishing activity.

East Inshore and East Offshore Marine Plans, April 2014

- 20.2.7. Policy BIO1 of the East Inshore and East Offshore Marine Plans (EIEOMP) states that: *"Appropriate weight should be attached to biodiversity, reflecting the need to protect biodiversity as a whole, taking into account of the best available evidence including on habitats and species that are protected or of conservation concern in the East marine plans and adjacent areas (marine, terrestrial)."*
- 20.2.8. EIEOMP Policy BIO2 guides that where appropriate, proposals for development should incorporate features that enhance biodiversity.

Local Impact Reports

- 20.2.9. In light of the mainly offshore nature of the matters within this section, no substantive comments were made in the submitted joint LIR [REP1-132] submitted by East Suffolk Council (ESC) and Surrey County Council (SCC). Comments raised in the joint LIR concerning potential biodiversity impacts on the Leiston-Aldeburgh Site of Special Scientific Interest (LASSSI) at the landfall area are assessed in Chapter 10 of this Report.

20.3. THE APPLICANT'S CASE

Information submitted

- 20.3.1. The Applicant's assessment of effects on benthic ecology is set out in Chapter 9 of the ES [APP-057]. Figures 9.1 to 9.14 [APP-115 to APP-128] and Appendices 9.1 to 9.4 [APP-458 to APP-461] also formed part of the ES for benthic ecology.
- 20.3.2. The Applicant's assessment of effects on fish and shellfish ecology is set out in Chapter 10 of the ES [APP-058]. Figures 10.1 to 10.45 [APP-129 to APP-173] and Appendices 10.1 to 10.3 [APP-462 to APP-464] also formed part of the ES for fish and shellfish ecology.
- 20.3.3. To accompany the application and updated during the course of the Examination, the Applicant also submitted the following documents that are of relevance for some or all of the matters assessed in this Chapter:
- Plan of Statutory/Non-Statutory Sites or Features of Nature Conservation (Offshore): Version 1 [APP-017], Version 2 [REP12-009];
 - Offshore In-Principle Monitoring Plan (IPMP): Version 1 [APP-590], Version 2 [REP3-040], Version 3 [REP6-015], Version 4 [REP8-027];
 - Outline Sabellaria Reef Management Plan: Version 1 [REP1-044], Version 2 [REP4-040], Version 3 [REP6-039];

- Outline Offshore Operations and Maintenance Plan: Version 1 [APP-589], Version 2 [REP3-038], Version 3 [REP7-027];
- Site Characterisation Report (Windfarm Site): Version 1 [APP-592], Version 2 [REP5-008];
- Site Characterisation Report (Offshore Cable Corridor) [APP-593];
- Offshore Schedule of Mitigation [APP-574];
- Cable Statement [APP-576];
- Outline Offshore Operations and Maintenance Plan: Version 1 [APP-589], Version 2 [REP3-038], Version 3 [REP7-027];
- Outline Fisheries Liaison and Coexistence Plan: Version 1 [REP1-045], Version 2 [REP3-050];
- Marine Policy Clarification Note [AS-038]; and
- Fish and Shellfish Ecology Clarification Note [AS-040].

20.3.4. The latest versions of several of the above documents, together with the ES, are listed as documents to be certified in Schedule 17 of the Applicant's final dDCO [REP12-013] in accordance with Article 36.

Applicant's initial assessment of impacts

Benthic ecology

- 20.3.5. Pre-application consultation with regard to benthic ecology was undertaken as part of the Expert Topic Groups²⁴. Table 9.2 of ES Chapter 9 [APP-057] set out the Applicant's realistic worst-case scenarios regarding impacts on benthic ecology. In [APP-057] the Applicant reported that two potential Annex I habitats were identified within the offshore development area: *Sabellaria spinulosa* reef (hereafter referred to as Sabellaria reef) and vegetated shingle.
- 20.3.6. Section 9.3.3 of ES Chapter 9 [APP-057] described the mitigation and best practice that the Applicant has committed to in relation to benthic ecology. This included site selection to avoid designated sites as far possible, micro-siting where possible to avoid Sabellaria reef, avoiding cable crossings where possible, using horizontal directional drilling (HDD) techniques from the intertidal zone to the subtidal zone, minimising scour protection, burying cables wherever possible and not disposing of sediment within 50m of known areas of Sabellaria reef.
- 20.3.7. The Applicant noted in [APP-057] that the Proposed Development did not overlap with any internationally, nationally or locally important sites designated for benthic ecology receptors. Table 9.2 of ES Chapter 9 [APP-057] provided a summary of the potential impacts identified for benthic ecology. Impacts were assessed for the construction, operation and decommissioning stages of the Proposed Development. The impacts were considered separately for habitats and species within the windfarm site, within the offshore cable corridor and within the offshore development area.

²⁴ As reported in ES Chapter 5 [APP-053] consultees for the benthic ecology Expert Topic Group comprised the MMO, NE and Cefas.

20.3.8. The following residual impacts on habitats and species were predicted in Table 9.2 of ES Chapter 9 [APP-057]:

Construction

- Minor adverse residual impacts due to temporary physical disturbance for the windfarm site and the offshore cable corridor;
- Minor adverse residual impacts due to increased suspended sediment and associated smothering of benthic receptors for the windfarm site and the offshore cable corridor;
- Negligible residual impacts due to remobilisation of contaminated sediments within the offshore development area;
- Negligible residual impacts due to underwater noise and vibration within the offshore development area;
- Negligible residual impacts on sites of marine conservation importance within the offshore development area; and
- Minor adverse residual impacts due to permanent habitat loss resulting from sea bed preparation within the offshore development area.

Operation

- Minor adverse residual impacts due to loss of habitat in the windfarm site;
- Minor adverse residual impacts due to loss of habitat in the offshore cable corridor;
- Minor adverse residual impacts due to physical disturbance within the offshore development area;
- Minor adverse residual impacts due to increased suspended sediment within the offshore development area;
- Minor adverse residual impacts due to colonisation of foundations and cable protection within the offshore development area;
- Negligible residual impacts due to interactions of electromagnetic fields (EMFs) with benthic invertebrates ;
- Negligible residual impacts due to underwater noise and vibration within the offshore development area; and
- Minor adverse residual impacts due to the introduction of marine non-native species (MNNS).

Decommissioning

- Negligible residual impacts on sites of marine conservation importance within the offshore development area;
- Minor adverse residual impacts due to loss of habitats and species colonising hard structures within the offshore development area; and
- Minor adverse residual impacts due to loss of habitat resulting from removal of foundation or cable infrastructure.

20.3.9. As regards potential cumulative effects on benthic ecology Table 9.21 of ES Chapter 9 [APP-057] predicted minor adverse residual impacts due to the following matters:

- Construction: loss of habitat within the offshore development area, increased suspended sediment concentrations within the offshore cable corridor, impacts upon the Outer Thames Estuary Special Protection Area (SPA);
- Operation: temporary physical disturbance associated with activities in the offshore cable corridor, loss of habitat in the windfarm sites, loss of habitat in the cable corridor, increased suspended sediment concentrations in the offshore cable corridor; and
- Decommissioning: Loss of habitat in windfarm sites and the offshore cable corridor.

Fish and shellfish ecology

- 20.3.10. Pre-application consultation with regard to fish and shellfish ecology was undertaken as part of the Expert Topic Groups²⁵. Table 10.2 of ES Chapter 10 [APP-058] set out the Applicant's realistic worst-case scenarios regarding impacts on fish and shellfish ecology.
- 20.3.11. Section 10.3.3 of ES Chapter 10 [APP-058] detailed the embedded mitigation that the Applicant has committed to which consisted of burying export cables where possible to reduce the effects of electromagnetic fields (EMF) and reduce the need for surface cable protection, and employing overnight working during construction. The Applicant also made a number of commitments including no simultaneous unexploded ordnance (UXO) detonations, and no concurrent piling or UXO detonation with the other East Anglia project.
- 20.3.12. Table 10.31 of ES Chapter 10 [APP-058] detailed the predicted residual impacts for fish and shellfish ecology for the construction and operation stages. The decommissioning stage was considered by the Applicant to be no worse than the construction stage, and likely to be less. The majority of the residual impacts were assessed in Table 10.31 as being "*Minor adverse*", with others predicted to be "*Negligible*". Also "*Minor beneficial*" residual impacts were assessed for the construction and operation stages due to changes in fishing activity.
- 20.3.13. In terms of cumulative impacts Table 10.31 [APP-058] predicted all of the residual impacts to be "*Minor adverse*".

Marine designated sites and other offshore biodiversity matters

- 20.3.14. The Applicant reported in Section 9.9.5.2 of ES Chapter 9 [APP-057] that the Proposed Development did not overlap with any internationally, nationally or locally important sites designated for benthic ecology receptors. The offshore cable corridor would be 2.1 km from the Orford Inshore Marine Conservation Zone (MCZ). The Applicant predicted that there would be no potential for the Proposed Development to adversely

²⁵ As reported in ES Chapter 5 [APP-053] consultees for the fish and shellfish ecology Expert Topic Group comprised the MMO, NE and Cefas.

impact on the site's designated features of subtidal mixed sand and gravels.

- 20.3.15. The landfall overlaps with LASSSI and there are areas of sandbank inshore of the offshore cable corridor that are supporting features of the Outer Thames Estuary Special Protection Area (SPA). Impacts on the LASSSI and the Outer Thames Estuary SPA are considered further in Chapters 10 and 24 respectively of this Report.

20.4. PLANNING ISSUES

Benthic ecology

- 20.4.1. Natural England (NE) in [RR-059] provided an advice note on cable protection assessment and inclusion in marine licences. Also, in [RR-059] NE raised a number of issues in regard to benthic ecology. These can be summarised as follows:
- Clearance of boulders should be away from habitat of conservation importance;
 - Sensitive areas should be avoided when undertaking sandwave levelling;
 - Further details should be provided regarding the extent and location of cable protection along the export cable route;
 - New cable protection required during operation has not been assessed;
 - Drill arisings should be placed in areas of scour protection or similar;
 - Further consideration should be given as to how microsinning would be secured;
 - All reef is a protected feature, irrespective of its quality; and
 - The Applicant should set out the footprint/spatial impact on sandbanks.
- 20.4.2. In ExQ2 [PD-030] the ExA questioned the Applicant and NE regarding concerns that had been raised by NE, for example in [REP5-085], regarding how the reef buffer could be secured on a case-by-case basis, how a second Annex I reef survey report would be secured if so required, and the issue of geotechnical investigations to inform a cable burial assessment and the degree to which cable protection would be required. In its third written questions (ExQ3) [PD-049] the ExA noted the responses provided by the Applicant [RE6-061] to ExQ2 questions on this matter and asked NE and the MMO to respond on impacts on Sabellaria reef and cable installations in mixed sediments.
- 20.4.3. In response, NE in [REP11-123] stated that it was content with the current controls in the Deemed Marine Licences (DMLs) regarding Sabellaria reef and further controls on cable installations in mixed sediment were not required due to their location and level of impact. In [REP11-114] the MMO stated its view that the Sabellaria Reef Management Plan was the appropriate way to avoid negative impacts on Sabellaria reef and that it did not consider that any additional controls on cable installations in mixed sediments were required.

- 20.4.4. In its final Risk and Issues Log [REP13-051] NE stated its agreement to the In-Principle Monitoring Plan in regard to benthic ecology monitoring.
- 20.4.5. In the final Statement of Common Ground (SoCG) with NE on offshore matters [REP8-109] all matters regarding benthic ecology were noted as either being "Agreed" or that "*There is agreement that this matter is closed*". The one exception to this was the issue of the mitigation with regard to Sabellaria reef which was recorded as a "*Not agreed*" matter.
- 20.4.6. The Marine Management Organisation (MMO) set out its final (Deadline 13) position in [REP13-045] in which it acknowledged the Applicant's view that the Outline Offshore Operations and Maintenance Plan (OOOMP) should reflect the current wording in the dDCO and not a separate marine licence. However, the MMO maintained its disagreement with the Applicant on this matter in [REP13-045] and considered that it should be removed from the OOOMP and should require a separate marine licence. However, the MMO noted that it had agreed with the Applicant on a without prejudice basis the requirement within the dDCO for information in relation to scour or cable protection in additional locations to be submitted for approval during a period of five years after the completion of construction.
- 20.4.7. In the SoCG with the MMO [REP12-073] all matters regarding benthic ecology were agreed except for the inclusion of Condition 24 of the generation assets (Schedule 13 of the dDCO) DML and Condition 20 of the offshore transmission assets (Schedule 14 of the dDCO) DML. The reason for this is because the MMO considered that a new Marine Licence should be required for any new cable or scour protection to be installed in locations where it had not previously been installed. Whilst the MMO did not agree with the principle of this Condition being included in the DMLs in the dDCO, there was agreement with its wording.
- 20.4.8. In [RR-036] the Eastern Inshore Fisheries and Conservation Authority (EIFCA) raised concerns about the scale of activities in the Southern North Sea and the potential impacts on seabed habitats. In the final SoCG with EIFCA [REP8-135] all matters regarding benthic ecology were agreed with the exception of the conclusions of the assessment of cumulative impacts which was a "*Not agreed*" matter.

Fish and shellfish ecology

- 20.4.9. In [RR-059] NE stated that the cable corridor for the Proposed Development was to be sited in a high intensity nursery ground for herring. NE also queried whether there was any more recent evidence the Applicant could cite regarding herring tolerance to suspended sediment concentrations. In [RR-059] NE also queried whether there was any further site-specific information regarding the risk to sand eels including through noise impacts. NE questioned why the Applicant could not commit to burying the offshore cabling to a minimum depth of 1.5m.
- 20.4.10. EIFCA stated in [RR-036] that it would generally support sustainably-developed offshore windfarms, although it highlighted the need for such

proposals to be developed with due regard to fisheries and conservation sensitivities and in full consultation with relevant stakeholders. In [RR-036] EIFCA also highlighted the potential for impacts on a range of species including tope shark and thornback ray that utilise the Outer Thames Estuary SPA, and North Sea nursery grounds for species such as herring, cod and mackerel and spawning grounds for sole and sandeels.

- 20.4.11. EIFCA also raised concerns in [RR-036] about the potential impacts due to electromagnetic fields (EMFs) and noted that there were gaps in the scientific literature regarding the potential effects of EMF emissions from subsea cables on marine fauna and noted that raised concerns about the scale of offshore development in the Southern North Sea.
- 20.4.12. The Applicant submitted a Fish and Shellfish Clarification Note [AS-040] in response to Relevant Representations made by NE, MMO and EIFCA. This provided updated survey data on herring larvae, noise modelling and assessed the impact of increased suspended sediment concentrations on whelk and King scallop.
- 20.4.13. An enduring theme in the Examination related to the potential impact on certain fish species, predominantly herring spawning. There were conflicting views about how restrictions on piling and UXO detonation during the herring spawning season could be secured in the DCO to give sufficient certainty but also the flexibility to account for yearly variations in the occurrence of herring spawning.
- 20.4.14. In ExQ3 [PD-049] the ExA asked the Applicant, MMO and any other relevant IPs to respond on the concerns raised by the MMO [REP9-060] regarding Condition 29 of Schedule 13 and Condition 25 of Schedule 14 that related to restrictions on piling and UXO detonation during the herring spawning season. In [REP11-114] the MMO referenced the Condition that it had proposed in this regard.
- 20.4.15. In the final SoCG with NE on offshore matters [REP8-109] all matters regarding fish and shellfish ecology were noted as either being "Agreed" or that *"There is agreement that this matter is closed"*.
- 20.4.16. In the SoCG with the MMO [REP8-132] all matters regarding fish and shellfish ecology were agreed except for the Conditions in the DMLs relating to a herring spawning restriction of approximately two weeks during the November to January period. The positions of both the Applicant and MMO regarding the inclusion of the wording of *"approximately 14 days"* were noted in [REP8-132].
- 20.4.17. In the final dDCO [REP12-013] the Applicant submitted revised wording to overcome the concerns that had been raised by the MMO in relation to there being no piling or UXO detonation undertaken during the herring spawning season. Consequently, in the final SoCG with the MMO [REP12-073] all matters in relation to fish and shellfish ecology had been agreed.
- 20.4.18. In the final SoCG with the EIFCA [REP8-135] all matters regarding fish and shellfish ecology were classified as being either agreed or *"Agreed that this matter is closed"*.

Marine designated sites and other offshore biodiversity matters

- 20.4.19. In Tables 3.1 and 3.2 of [RR-059] NE listed the European and national sites that it considered could be potentially affected by the Proposed Development. Whilst Tables 3.1 and 3.2 listed ornithological qualifying features of a number of SPAs for their ornithological features and the LASSI, no marine designated sites were listed.
- 20.4.20. The impact of the Proposed Development on marine designated sites, either alone or cumulatively, was not raised as a specific issue by any of the Interested Parties (IPs) during the Examination.

20.5. ExA RESPONSE

Benthic ecology

- 20.5.1. By the close of the Examination, as recorded in the signed SoCGs [REP12-073] and [REP8-109] all matters that had been raised in relation to benthic ecology had been agreed between the Applicant and the MMO and NE respectively, with the exception of the mitigation in relation to the Sabellaria reef and whether any new cable and scour protection should fall within the ambit of the marine licensing regime.
- 20.5.2. In relation to Sabellaria reef, the ExA recognises that the Outline Sabellaria Reef Management Plan was a certified document in Schedule 17 of the dDCO, and Condition 20(2)(a) of Schedule 13 and Condition 16(2)(a) of Schedule 14 of the dDCO [REP12-103] specifically require the submission of a Sabellaria reef pre-construction survey. Sabellaria reef is ephemeral in nature and therefore the pre-construction survey would provide an updated assessment of its presence that would be used to inform the Sabellaria Reef Management Plan that is secured in Condition 17(1)(j) of Schedule 13 and Condition 13(1)(j) of Schedule 14 of the dDCO [REP12-013].
- 20.5.3. The ExA notes that the Proposed Development is not located in an area that is protected for benthic habitats. NE's remaining concern is primarily due to its contention that there was a degree of uncertainty in relation to the buffers around areas of Sabellaria reef and these buffers could be encroached upon. However, as stated in Condition 17(1)(j) of Schedule 13 and Condition 13(1)(j) of Schedule 14 of the dDCO [REP12-013] the Sabellaria Reef Management Plan must accord with the Outline Plan [REP6-039] and must be submitted to the MMO a minimum of six months prior to the commencement of construction activities.
- 20.5.4. Taking all of this into account, the ExA is therefore content that the management plan process that is set out in Table 1.1 of [REP6-039] would provide an appropriate series of steps and actions for the implementation of the Sabellaria Reef Management Plan. The ExA considers that this Management Plan would need to contain a sufficient degree of certainty around the location of both Sabellaria reef and buffer areas for it to be deemed to be acceptable by the MMO. Consequently,

the ExA is satisfied that there would be a sufficiently robust process to identify and safeguard areas of Sabellaria reef to ensure that any impacts would be minimised as far as possible.

- 20.5.5. The MMO's final position was that the need for the installation of any new cable and scour protection should be a marine licensing matter. However, the ExA notes that Condition 24 of Schedule 13 and Condition 20 of Schedule 14 require that information regarding any new locations for scour protection and cable protection would need to be agreed by the MMO in consultation with the statutory nature conservation body (SNCB). This information must be submitted to the MMO for its agreement at least four months before the intended installation of such protection. The ExA therefore considers that a sufficiently robust assessment and authorisation process for scour and cable protection in new locations is secured within Schedules 13 and 14 of the dDCO. Consequently, the ExA does not agree with the MMO's argument that this should be a matter for a separate marine licence.
- 20.5.6. The ExA notes the documents that are to be certified in Schedule 17 of the dDCO [REP12-013] which include the Offshore In-Principle Monitoring Plan that is secured in Condition 17 of Schedule 13 and Condition 13 of Schedule 14 of the dDCO respectively. Taking into account the proposed mitigation, the ExA therefore concurs with the Applicant's assessment of residual impacts for the Proposed Development alone on benthic ecology.
- 20.5.7. As regards the concerns regarding cumulative impacts on seabed habitats of the Southern North Sea that were raised by EIFCA in [RR-059], it is the ExA's view that these relate to wider matters that would need to be assessed on a regional basis. Consequently, the ExA considers that the matters raised by EIFCA would not fall within the more restricted geographical scope of cumulative impact considerations for benthic ecology in relation to the Proposed Development. The ExA concludes that the Applicant has applied an appropriate methodology in regard to the assessment of cumulative impacts. In reaching this view the ExA has had regard to the responses made by the NE and MMO that do not raise significant concerns regarding the assessment and management of cumulative impacts in relation to benthic ecology. The ExA therefore has no reason to disagree with the Applicant's assessment of minor adverse cumulative impacts that is set out in Table 9.21 of ES Chapter 9 [APP-057].
- 20.5.8. Taking all of this into account, the ExA is content that the potential impacts of the Proposed Development alone and cumulatively on benthic ecology have been adequately assessed and that appropriate mitigation is secured in the dDCO [REP12-013]. Therefore, the ExA concludes that all relevant legislation and policy tests have been met.

Fish and shellfish ecology

- 20.5.9. By the close of the Examination, as recorded in [REP12-073] and [REP8-109] all matters that had been raised in regard to fish and shellfish ecology had been agreed between the Applicant and the MMO, EIFCA and

NE respectively. The ExA notes the documents that are secured in Schedule 17 of the dDCO [REP12-013] which include the Offshore In-Principle Monitoring Plan [REP8-027] that is secured in Condition 17 of Schedule 13 and Condition 13 of Schedule 14. In addition, Condition 29 of Schedule 13 and Condition 25 of Schedule 14 of the dDCO [REP12-103] contain the agreed wording for restrictions on piling and UXO detonation during the herring spawning season.

- 20.5.10. Taking account of this, and the consultation responses from the NE, the MMO and EIFCA, the ExA is content that mitigation has been adequately secured in the dDCO and the impacts on fish and shellfish ecology from the Proposed Development alone would not be significantly adverse. The ExA agrees with the Applicant's assessment that the residual impacts of the Proposed Development alone on fish and shellfish receptors would be a mixture of minor adverse or negligible ones.
- 20.5.11. Apart from the other East Anglia project there have not been any other direct impact pathways identified in relation to other plans and projects. The ExA notes that the conclusions of the assessment of cumulative impacts on fish and shellfish ecology have been agreed by NE in [REP8-109] and the MMO in [REP12-073].
- 20.5.12. The ExA concurs with the assessment of the Applicant that the cumulative impacts on fish and shellfish receptors, as set out in Table 10.31 of ES Chapter 10 [APP-058] would be minor adverse and therefore would not be significantly more adverse than for the Proposed Development alone. Consequently, the ExA concludes that all relevant legislation and policy tests have been met.

Marine designated sites and other offshore biodiversity matters

- 20.5.13. Due to the separation distances and the nature of the Proposed Development, the ExA concurs with the Applicant's assessment that the Proposed Development either alone or cumulatively would have a neutral impact on marine designated sites.
- 20.5.14. Impacts on offshore ornithology, marine mammals, marine physical effects and water quality and HRA matters are considered in Chapters 19, 20, 21 and 24 respectively of this Report. No significant issues have been raised by any IPs regarding any other offshore biodiversity impacts and, therefore, the ExA concludes that all relevant legislation and policy tests have been met and there would be no significant adverse effects in this regard.

20.6. CONCLUSION ON OFFSHORE BIODIVERSITY EFFECTS

- 20.6.1. For the reasons set out above, the ExA reaches the following conclusions in regard to offshore biodiversity effects:

- The residual impacts on benthic ecology for the Proposed Development alone and cumulatively would be predominantly minor adverse, but also with some negligible impacts;
- The impacts on fish and shellfish ecology for the Proposed Development alone and cumulatively would be predominantly minor adverse, with some negligible impacts and a slightly beneficial impact due to predicted changes in fishing activity;
- No marine designated sites would be adversely affected by the Proposed Development and there would be no other offshore biodiversity effects of significance beyond those specifically discussed in this and other Chapters of this Report;
- The Proposed Development alone and cumulatively would comply with all relevant policy and legislation tests in relation to offshore biodiversity effects, including NPS EN-1, NPS EN-3, MPS and EIEOMP; and
- Overall, the ExA concludes that the offshore biodiversity effects of the Proposed Development alone and cumulatively would be negative in weight and of low significance overall. This means that a low negative weighting for this matter should be carried forward into the overall planning balance.

21. FINDINGS AND CONCLUSIONS IN RELATION TO MARINE PHYSICAL EFFECTS & WATER QUALITY

21.1. INTRODUCTION

21.1.1. This Chapter considers the effects of the Proposed Development, both alone and cumulatively, on the following matters:

- The marine physical environment; and
- Marine water quality.

Reference should also be made to Chapter 11 in Volume 1 of this Report, which considers coastal processes.

21.2. POLICY CONSIDERATIONS

National Policy Statements

21.2.1. NPS EN-1 paragraph 5.12.2 identifies the need for an assessment of the effects of development on water quality, water resources and the physical characteristics of the water environment. Paragraph 5.15.5 indicates that impacts on the water environment should generally be given more weight by the decision maker when they would have an adverse effect on the meeting of objectives under the Water Framework Directive (WFD).

21.2.2. NPS EN-3 from paragraph 2.6.189 identifies the need to consider the effects of marine development in terms of water quality, waves, tides, scour, sediment transport and suspended solids. The advice of the MMO and Cefas should be sought. The SoS should be satisfied that the methods of construction and use of materials reasonably minimise potential impacts on the receiving physical environment (paragraph 2.6.196). Trenching of cables and the of scour protection are identified as mitigation techniques (paragraph 2.6.197).

UK Marine Policy Statement, 2011

21.2.3. Section 3.3 of the UK Marine Policy Statement (the MPS) considers offshore energy production. Section 3.3.24 references the hydrodynamic effects of offshore WTG foundations but defers detailed consideration to NPS EN-3.

21.2.4. Section 2.6.4 addresses water quality and resources. Principally concerning itself with ensuring that there should be no deterioration in water quality for any waters to which the WFD applies, and of the achievement of any relevant targets set under the Marine Strategy Framework Directive (MSFD).

21.2.5. **East Inshore and East Offshore Marine Plans, April 2014**

- 21.2.6. Objective 6 of the Marine Plans is '[t]o have a healthy, resilient and adaptable marine ecosystem in the East marine plan areas'. Paragraph 184 identifies that this is served by environmental characteristics beyond specific biodiversity interests, including the identification of 'water quality characteristics critical to supporting a healthy ecosystem and pollutants that may affect these', and 'coastal processes [...] and the hydrological and geomorphological processes in water bodies'

21.3. THE APPLICANT'S CASE

Marine Geology, Oceanography and Physical Processes

- 21.3.1. The Applicant's case is founded on ES Chapter 7 – Marine Geology, Oceanography and Physical Processes [APP-055]. ES Chapter 7 records bathymetry, geology, water levels, waves, tides and sediment transport as relevant considerations.

Construction, operational and decommissioning effects

- 21.3.2. The following construction effects are identified:

- Changes in suspended sediment concentrations due to WTG foundation installation;
- Changes in sea bed level due to WTG foundation installation;
- Changes in suspended sediment concentrations during inter-array cable and platform link cable installation;
- Changes in sea bed level due to inter-array cable and platform link cable installation;
- Changes in suspended sediment concentrations during export cable installation;
- Changes in sea bed level due to export cable installation; and
- Changes to suspended sediment concentrations and coastal morphology at the landfall.

The ES identifies the first two of these effects as of negligible significance, with no significant impact arising in respect of any of these effects

- 21.3.3. The following operational effects are identified

- Changes to the tidal regime due to the presence of WTG foundation structures;
- Changes to the wave regime due to the presence of WTG foundation structures;
- Changes to the sediment transport regime due to the presence of WTG foundation structures;
- Changes in suspended sediment concentrations due to scour around WTG foundation structures;
- Changes to the sea bed morphology due to the footprint of the WTG foundation structures;
- Morphological and sediment transport effects due to cable protection measures for inter-array cables and platform link cables;

- Morphological and sediment transport effects due to cable protection measures for export cables;
- Morphological effects due to cable protection measures at the export cable landfall; and
- Indentations on the sea bed due to maintenance vessels.

The ES identifies that the effects range from negligible to no impact.

21.3.4. The following decommissioning effects are identified:

- Changes in suspended sediment concentrations due to foundation removal
- Changes in sea bed levels due to foundation removal;
- Changes in suspended sediment concentrations due to removal of parts of the inter-array and platform link cables
- Changes in sea bed levels due to removal of parts of the inter-array and platform link cables
- Changes in suspended sediment concentrations due to removal of parts of the export cable;
- Changes in sea bed levels due to removal of parts of the export cable;
- Indentations on the sea bed due to decommissioning vessels; and
- Changes to suspended sediment concentrations and coastal morphology at the offshore cable corridor landfall due to removal of the export cable.

The ES identifies no significant impact arising in respect of any of these effects.

Cumulative Effects

21.3.5. Turning to cumulative effects, the ES considers the effects of the Proposed Development alongside the other East Anglia project, Sizewell C new nuclear power station, Hornsea 1, Hornsea 2, Hornsea 3, Norfolk Boreas, Norfolk Vanguard West, Norfolk Vanguard East, East Anglia ONE, East Anglia THREE, Greater Gabbard and Galloper OWFs. It identifies that the following matters do have the potential for cumulative effects operationally:

- Changes to the tidal regime due to the presence of WTG foundation structures;
- Changes to the wave regime due to the presence of WTG foundation structures;
- Changes to the sediment transport regime due to the presence of WTG foundation structures; and
- Morphological and sediment transport effects due to cable protection measures for export cables.

21.3.6. No cumulative effects of construction or decommissioning were identified in terms of the above factors. No significant cumulative effect was found in respect of the baseline wave regime, baseline tidal regime or baseline sediment regime. There would be no cumulative impact on any other identified marine geology, oceanography and physical processes receptor groups located offshore of the closure depth and / or beyond active circulatory sediment transport pathways between the shore and Sizewell

Bank. There would be cumulative impacts of negligible significance on the Suffolk Natura 2000 site and indirect cumulative impacts of negligible significance on the East Anglian Coast.

Other effects

- 21.3.7. No potential for transboundary effects was identified in the ES. In terms of interactions between impacts cumulatively, there would be effects in construction on the Suffolk Natura 2000 site and the East Anglian Coast, but these would not exceed the effect of any individually assessed impact.

Marine Geology, Oceanography and Physical Processes Conclusions

- 21.3.8. Drawing this analysis together, ES Chapter 7 concludes that with the exception of the following effects, which are recorded as negligible, all other effects give rise to no impacts in construction, operation or decommissioning,
- Changes in suspended sediment concentrations in construction affecting the Suffolk Natura 2000 site, with no mitigation and negligible residual impact;
 - Changes in sea bed levels due to export cable installation in construction affecting the Suffolk Natura 2000 site, with mitigation through cable installation methods and negligible residual impact; and
 - Morphological and sediment transport effects due to cable protection measures for offshore cables in operation, with mitigation through cable installation methods and negligible to no residual impact.

Marine Water & Sediment Quality

- 21.3.9. The Applicant's case is founded on ES Chapter 8 – Marine Water and Sediment Quality [APP-056]. This Chapter describes the existing environment with regard to marine water and sediment quality and the effects of the Proposed Development upon it.

Construction, operational and decommissioning effects

- 21.3.10. The following construction effects are identified:
- Deterioration in offshore water quality due to increased suspended sediment concentrations due to sea bed preparation including sand wave levelling during installation of foundations;
 - Deterioration in offshore water quality due to increased suspended sediment concentrations due to drill arisings for installation of piled foundations;
 - Deterioration in water quality due to increased suspended sediment concentrations during installation of the offshore export cable including sand wave levelling;

- Deterioration in offshore water quality due to increased suspended sediment concentrations during inter-array and platform link cable installation including sand wave levelling;
- Deterioration in water quality due to works at the offshore export cable landfall;
- Deterioration in water quality due to re-suspension of sediment bound contaminants; and
- Changes to suspended sediment concentrations and coastal morphology at the landfall.

The ES identifies minor adverse impacts arising from these effects in construction, with the exception of changes to suspended sediment concentrations and coastal morphology at the landfall, which is assessed as of negligible impact.

21.3.11. The following operational effects are identified

- Deterioration in offshore water quality due to increased suspended sediment concentrations due to scour around foundation structures;
- Deterioration in water quality due to re-suspension of sediment bound contaminants as a result of scour;

The ES identifies that these effects are both negligible.

21.3.12. Decommissioning effects are identified as being equivalent to construction effects.

Cumulative Effects

21.3.13. As set out in Table 8.13 of ES Chapter 8 [APP-056] there were no predicted potential cumulative impacts.

Other effects

21.3.14. No potential for transboundary effects was identified in the ES. In terms of interactions between impacts cumulatively, there would be effects in construction of the interaction between deterioration in offshore water quality due to increased suspended sediment concentrations due to scour around foundation structures and deterioration in water quality (offshore and coastal) due to re-suspension of sediment bound contaminants as a result of scour.

Marine Water and Sediment Quality Conclusions

21.3.15. Drawing this analysis together, ES Chapter 8 concludes as follows:

- Deterioration in offshore water quality in construction due to increased suspended sediment concentrations due to sea bed preparation including sand wave levelling during installation of foundations with minor adverse impacts;
- Deterioration in offshore water quality in construction due to increased suspended sediment concentrations due to drill arisings for installation of piled foundations with minor adverse impacts;
- Deterioration in water quality in construction due to increased suspended sediment concentrations during installation of the offshore

export cable including sand wave levelling with minor adverse impacts;

- Deterioration in offshore water quality in construction due to increased suspended sediment concentrations during inter-array and platform link cable installation including sand wave levelling with minor adverse impacts;
- Deterioration in water quality in construction due to works at the offshore export cable landfall with minor adverse impacts;
- Deterioration in water quality in construction due to re-suspension of sediment bound contaminants with minor adverse impacts; and
- Changes to suspended sediment concentrations and coastal morphology at the landfall in construction with negligible impacts.
- Deterioration in offshore water quality in operation due to increased suspended sediment concentrations due to scour around foundation structures with negligible impacts;
- Deterioration in water quality due to re-suspension of sediment bound contaminants as a result of scour with negligible impacts; and
- Deterioration in water quality due to increased suspended sediment concentrations during removal of accessible installed components in decommissioning, with negligible/ minor adverse impacts.

- 21.3.16. There are no mitigations proposed for these effects and so there are no matters requiring consideration in terms of standards to be met or security in the dDCO.

21.4. PLANNING ISSUES

- 21.4.1. The planning issues emerging from these Chapters of the ES required to be reviewed by the ExA but were not matters of controversy.

21.5. ExA RESPONSE

- 21.5.1. In the final Statement of Common Ground (SoCG) with the Marine Management Organisation (MMO) [REP12-073] all matters were agreed regarding marine geology, oceanography and physical processes and marine water and sediment quality. Also, in the final SoCG with Natural England (NE) [REP8-109] all matters were agreed in relation to marine geology, oceanography and physical processes, with the wording of Condition 24 of Schedule 13 and Condition 20 of Schedule 14 of the dDCO [REP12-013] being agreed on a without prejudice basis.
- 21.5.2. judgment of the ExA, these matters are all policy compliant and no other important or relevant considerations arise which bear on the design of mitigation or security in the dDCO.

21.6. CONCLUSION ON MARINE PHYSICAL EFFECTS & WATER QUALITY

- 21.6.1. For the reasons set out above, the ExA reaches the following conclusions in regard to marine physical effects and water quality:

- The effects of the Proposed Development in terms of marine geology, oceanography and physical processes are broadly negligible and relevant policy is met.
- The effects of the Proposed Development in terms of marine water and sediment quality effects are broadly minor adverse and relevant policy is met.
- This means that a low negative weighting for this matter should be carried forward into the overall planning balance.

22. FINDINGS AND CONCLUSIONS IN RELATION TO OFFSHORE HISTORIC ENVIRONMENT

22.1. INTRODUCTION

22.1.1. This chapter considers the offshore historic environment – which comprises marine archaeology and cultural heritage within the offshore Proposed Development area. The chapter draws upon Chapter 16 of the Environmental Statement (ES), 'Marine Archaeology and Cultural Heritage' [APP-064].

22.1.2. The chapter is split into the following sections:

- Policy Considerations
- The Applicant's Case
- Planning Issues
- ExA Response
- Conclusion

22.2. POLICY CONSIDERATIONS

Overarching National Policy Statement for Energy (EN-1)

22.2.1. Paragraph 5.8.8 of the Overarching National Policy Statement for Energy (EN-1) (NPS EN-1) states that as part of the ES the Applicant should provide a description of the significance of the heritage assets affected by the Proposed Development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. The applicant should ensure that the extent of the impact of the Proposed Development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents.

22.2.2. Paragraph 5.8.9 notes that where it is considered there to be a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the SoS should consider requirements to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

National Policy Statement for Renewable Energy Infrastructure (EN-3) (NPS EN-3)

22.2.3. NPS EN-3 notes that heritage assets may exist offshore and within the intertidal areas. Such assets can include remains from pre-historic settlements as well as wreck sites and other features of historic maritime significance. These can be affected by the physical siting of development

itself as well as indirect changes to the physical marine environment caused by the development or its construction (paragraphs 2.6.138-139)

- 22.2.4. The policy statement says that consultation with relevant statutory consultees should be undertaken at an early stage and should include the identification of any beneficial effects on the historic marine environment, including for example through contribution to knowledge (paragraphs 2.6.140, 2.6.142).
- 22.2.5. The SoS should be satisfied that offshore wind farms and associated infrastructure has been designed sensitively. The avoidance of important heritage assets is the most effective form of protection and can be achieved through exclusion zones (paragraphs 2.6.144-145).

National Planning Policy Framework

- 22.2.6. The NPPF states that when considering the impact of a Proposed Development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification (paragraphs 199-200).

UK Marine Policy Statement and East Inshore and East Offshore Marine Plans

- 22.2.7. The Marine Policy Statement (MPS) states that the historic environment of coastal and offshore zones represents a unique aspect of our cultural heritage but notes that heritage assets are a finite and often irreplaceable resource and can be vulnerable to a wide range of human activities and natural processes. Heritage assets should be enjoyed for the quality of life they bring to this and future generations and should be conserved through marine planning in a manner appropriate and proportionate to their significance.
- 22.2.8. Policy SOC2 of the East Inshore and East Offshore Marine Plans states that proposals that may affect heritage assets should demonstrate that they will not compromise or harm elements which contribute to the significance of the heritage asset, but that if there is any harm this should be minimised or if this is not possible be mitigated against.

22.3. THE APPLICANT'S CASE

Introduction

- 22.3.1. This section is organised to consider the methodology and scope of the ES first, before considering the effects of the offshore elements of the Proposed Development on the historic environment. Cumulative effects are then considered.

Scope and Existing Environment

- 22.3.2. Chapter 16 of the ES [APP-064] considers marine archaeology and cultural heritage and aims to summarise the existing baseline conditions within the offshore development area (including the landfall below Mean High Water Springs), assess the potential impacts to offshore and intertidal archaeological receptors from the Proposed Development, and describe the embedded and additional mitigation proposed to prevent significant impact.
- 22.3.3. Known and potential archaeology is summarised for seabed prehistory, maritime and aviation archaeology, Historic Seascape Character (HSC), and buried archaeology within the study area of the proposed windfarm site and offshore cable corridor.
- 22.3.4. Consultation was carried out from mid-2017 through various groups and reports. No public consultation feedback specific to marine archaeology and cultural heritage was raised during the public consultation.
- 22.3.5. Subsequent to the archaeological assessments undertaken to inform the ES, the boundary of the Proposed Development, in terms of the windfarm site and the offshore cable corridor was revised to reduce the north to south extent of the windfarm site. The results of the work in the ES include the previous wider footprint but the baseline in the ES chapter [APP-064] has been amended.
- 22.3.6. There are no known seabed prehistory sites in the study area, but there is the potential for previously undiscovered prehistoric sites. A range of channel features of varying complexity was found during surveys. The applicant has agreed with Historic England (HistE) to undertake further geophysical and geotechnical surveys after consent (if consent were to be granted). This will be secured in an offshore Written Scheme of Investigation (WSI). The WSI [APP-583] was submitted alongside the ES and sets out the proposed approach to archaeological mitigation and investigations to be undertaken in the offshore and intertidal project areas.
- 22.3.7. For maritime and aviation archaeology there are several recorded wrecks and obstructions but no known aircraft crash sites in the study area. There are no sites within the study area that are subject to statutory protection from the Protection of Wrecks Act 1973, the Protection of Military Remains Act 1986 or the Ancient Monuments and Archaeological Areas Act 1979.
- 22.3.8. Within the proposed windfarm site, a total of 262 anomalies were found during survey work, of which five were wrecks. Four of these wrecks have previously been charted. 841 anomalies were found within the proposed cable route, of which eight were wrecks. All these have been previously charted and seven of them are named. A further 16 recorded losses of wrecks which have not previously been associated with identified wrecks on the seabed are also within the study area. The

potential for the remains of World War II defences within the intertidal area around Thorpeness beach is high.

- 22.3.9. The majority of the wrecks are considered to represent average examples of wrecks from the 20th century, exhibiting characteristics which are relatively well represented in the known wreck resource around the UK. The wrecks are considered to be of regional importance due to their association with the World Wars and the East Coast Channels and are regarded as heritage assets of medium importance.

Potential Impacts - Construction

- 22.3.10. Archaeology Exclusion Zones (AEZs) are proposed for the anomaly/wreck sites within the proposed windfarm site. These comprise of a 50m buffer around the wreck extent and 15m buffers around wreck debris. AEZs are also proposed for 17 'A1' sites within the offshore cable corridor. 'A2' sites (smaller areas of debris and disturbance) will not have AEZs but will be avoided by micro-siting if possible following further survey and investigation secured by the Offshore WSI [APP-583]. Within the intertidal zone all known assets would be avoided by the use of horizontal directional drilling (HDD).
- 22.3.11. It is not possible to avoid heritage assets that have not yet been discovered. The ES states that as a precautionary approach, it should be assumed that total loss or substantial harm is possible of such assets. Additional mitigation methods are proposed, and the implementation of these mitigation measures will be agreed in consultation with HistE in accordance with industry standards and guidance, and confirmed in the Offshore WSI [APP-583].
- 22.3.12. Potential indirect impacts to heritage assets from changes to physical processes is assessed as low and negligible depending on distance from direct works with a magnitude of effect of nil and consequently no impact.
- 22.3.13. Impacts on the setting of heritage assets and the HSC²⁶ of the area is assessed as temporary and the potential for drilling fluid breakout to adversely affect heritage assets is assessed as negligible due to the use of a Marine Pollution Contingency Plan.

Potential Impacts – Operation and decommissioning

- 22.3.14. The AEZs would be retained throughout the project lifespan and there would be no impact during operation. Maintenance activities could have an impact on potential heritage assets; with the application of mitigation the ES states that this would be reduced to the level of minor adverse harm.

²⁶ The HSC area that the Proposed Development falls within is the Newport to Clacton HSC (paragraph 16.5.4, 122 ES Chapter 16 [APP-064])

- 22.3.15. The ES describes the process of scouring, where the presence of foundations in the seabed leads to flow acceleration in the vicinity. The ES states that the AEZs will help to mitigate such risk and there would be a minor adverse impact on heritage assets from changes to physical processes.
- 22.3.16. Effect on the setting of heritage assets and the HSC is considered to be minor adverse, as while the setting of the assets would be affected by vessels, personnel and infrastructure, this setting is already influenced by passing vessels.
- 22.3.17. Decommissioning activities are considered to have a minor adverse effect on direct impact to potential heritage assets for similar reasons as construction and operation.

Cumulative impacts

- 22.3.18. As for the Proposed Development on its own, it is not possible to avoid heritage assets that have not yet been discovered, and therefore although reduced by mitigation minor adverse harm will arise cumulatively both with the other East Anglia application and with East Anglia Three.
- 22.3.19. Adverse effects on the former submerged landscapes or the in site maritime and aviation resource are considered to be outweighed by the acquisition and archaeological assessment of geophysical and geotechnical survey data contributing significantly to a greater understanding of the offshore historic environment.
- 22.3.20. Cumulative impacts to the setting of heritage assets and historic seascape character is described as potentially a significant cumulative change from a "historically perceived, open North Sea seascape to a seascape characterised by industrial infrastructure and activities", with the perception of the HSC perhaps altering to being "associated primarily with offshore renewables" (paragraph 211).
- 22.3.21. The ES notes that while the HSC is considered to have a high capacity to accommodate change, cumulative change will occur as a result of multiple projects. The ES considers whether this is considered to be negative or positive is subjective and dependent on the view of individuals.
- 22.3.22. Finally, the ES notes the potential cumulative beneficial impact of the accumulation of scientific and archaeological data across the North Sea, sharing information and knowledge with partners in the Netherlands and Belgium.

22.4. PLANNING ISSUES

- 22.4.1. The issue of offshore heritage was not a contentious issue during the examination and was an issue that was almost solely raised by HistE.

- 22.4.2. In their RR [RR-047] HistE noted the large number of geophysical seabed anomalies recorded, considering that this highlights the potential for significant historic environment features to be present. HistE's concern was to ensure that the Outline Offshore Archaeological WSI considered how construction could be designed sensitively to take into account known and potential heritage assets.
- 22.4.3. HistE noted [RR-047] that in the event of consent they are concerned to ensure the appropriate depth for a continuous stratigraphy is incorporated into the planning of the geotechnical survey, with boreholes and vibrocores stored and maintained to maximise archaeological objectives to mitigate impacts on archaeological deposits of high potential. They noted that the proposals of embedded and additional mitigation have the potential to successfully mitigate impacts to the historic environment through avoidance, but these present opportunities to better reveal the significance of the heritage assets found within the Proposed Development area.
- 22.4.4. HistE also considered [RR-047] that the projects potential contribution to new knowledge arising from such investigations can be linked to additional socio-economic beneficial effects, such as the provision and enhancement of educational facilities for the community. Given the scale of the development and the cumulative impacts within this region of the southern North Sea, they felt that these outcomes should be included as part of the mitigation.
- 22.4.5. In their RR [RR-052] the Marine Management Organisation noted that the East Inshore and East Offshore Marine Plans Policy SOC2 had been considered with the ES.
- 22.4.6. In response to the HistE RR [RR-047], the Applicant reiterated [AS-036] that they had committed to further archaeologic assessments and stated that a final WSI would be submitted to HistE at least 6 months prior to the start of licensed activities and to the MMO at least 4 months prior. They also noted that a design plan would be produced post -consent [if consent is granted] to detail any AEZs and micro-siting requirements. They noted that HistE would be consulted on the scope of all further surveys, as committed to in the draft WSI [APP-583] and conditions in the draft DCO also committed to this. They note the potential beneficial effects of new archaeological knowledge and would continue to engage with HistE via the Statement of Common Ground process.
- 22.4.7. At D1 [REP1-143], HistE stated that the ES identifies, describes and assesses in an adequate manner the potential direct and indirect effects of the Proposed Development on the marine historic environment. They considered that the European Convention on the Protection of the Archaeological Heritage should be referenced in the WSI [APP-583] and requested clarification on worst case scenarios, pre-commencement works, ES chapter numbering, and AEZ details, and considered that additional sub-surfacing profiling should be considered, as well as a spatial threshold for when anomalies that cannot be avoided would be investigated, as well as the cumulative impacts of cable crossing points.

HistE further reiterated the need to secure public benefits of new archaeological knowledge.

- 22.4.8. HistE made further comments on the WSI [APP-583], considering it to be sensible and appropriate, but required greater details for certain mechanisms including effective phasing, future works, a strategy for heritage assets encountered, archaeological watching briefs, micro-siting, timeframes and future survey work. HE also made comments [REP1-143] on the draft DCO requiring further details and clarification on the proposed offshore archaeological conditions.
- 22.4.9. At D2 the Applicant [REP2-016] provided information in response to the comments of HistE at D1, accepting the comments of HistE in the main and providing relevant clarification elsewhere. A revised WSI was submitted at D3 [REP3-028] and HE confirmed at D5 [REP5-074] that this updated version had captured their concerns and confirmed that discussions with the applicant had resulted in a commitment to alter Schedule 14, Part 2, Condition 13(1)(g) of the draft DCO. Further draft DCO revisions were also requested.
- 22.4.10. A Statement of Common Ground between the Applicant and HistE was also being discussed during the examination; at D8 a signed version [REP8-128] was submitted. This confirmed that all EIA, dDCO, and WSI matters were agreed between the parties.

22.5. ExA RESPONSE

- 22.5.1. The ExA has reviewed the effects of the Proposed Development and the proposed mitigation measures and security in relation to the historic environment offshore.
- 22.5.2. Due to the nature of the subject no specific unaccompanied site visit took place to view the subject area although the area of the proposed landfall and any visible heritage assets in the intertidal area around Thorpeness beach was viewed at USI2 [EV-006]. As stated above, the issue of offshore heritage was not a contentious one during the examination and no Issue Specific Hearings were held to consider offshore heritage.

Potential Impacts - Construction

- 22.5.3. When considering the AEZs and the changes made to the Offshore WSI [REP3-028] during the examination, the ExA agrees that all direct impacts to known heritage assets would be avoided and that there will be no impact during construction.
- 22.5.4. The ExA accepts that it is not possible to avoid heritage assets that have not yet been discovered but that the precautionary approach taken and the mitigation measures proposed reduces harm levels to minor adverse.
- 22.5.5. Given distance from direct works and the presence of the AEZs, the ExA accepts that potential indirect impacts to heritage assets from changes to physical processes is likely to have no impact.

- 22.5.6. The effects on setting of heritage assets during construction and the potential for drilling fluid breakout to adversely affect heritage assets is agreed as negligible due to the mitigation measures proposed.

Potential Impacts – Operation and decommissioning

- 22.5.7. The mitigation proposed and the presence of AEZs should ensure that there would be no direct impact to known heritage assets during operation and decommissioning.
- 22.5.8. As with potential impacts during construction, maintenance and decommissioning could have an impact on unknown potential heritage assets; with the application of mitigation the ExA agree that such harm would be minor. Changes to physical processes would cause minor adverse harm to heritage assets.
- 22.5.9. The ExA consider that the setting of marine heritage assets and of the HSC would be harmed in a minor way. While the setting of such assets is already affected by passing vessels and the character of the HSC is already affected by large scale infrastructure, the Proposed Development would further concentrate this, adversely affecting the character of the area. Such an effect would be minor due to the large scale of the HSC and its capacity to accept change.

Cumulative impacts

- 22.5.10. The ExA agree that, as for the Proposed Development, it is not possible to avoid heritage assets that have not yet been discovered and therefore although reduced by mitigation, minor adverse harm will arise to potential heritage assets with East Anglia Two.
- 22.5.11. The ExA considers that the large-scale archaeological assessment of geophysical and geotechnical survey data cumulatively, and the scientific and educational opportunities that this could lead to both in the UK and with European partners, has the potential to have a minor beneficial effect.
- 22.5.12. The ES considers that while cumulative impacts to the setting of heritage assets and historic seascape character would be significant, that whether this is considered to be negative or positive is subjective and dependent on the view of individuals. The ExA note and agree that while to a certain extent character changes are subjective, the change from a largely open seascape to a far more industrialised one would cause harm to the wide-open expanses of the HSC. While noting the capacity of this seascape to accept change, the ExA consider such change to cause minor adverse harm.

22.6. CONCLUSIONS

- 22.6.1. This section sets out the ExA's conclusions on the effects of the Proposed Development on the offshore historic environment. Taking all relevant evidence and policies into account, the ExA has found as follows.

- The Applicant has adequately provided the required information and the Proposed Development complies in this respect with Policy statements EN1, EN3, and with Policy SOC2 of the East Inshore and East Offshore Marine Plans.
- The proposed mitigation and the provisions of the Offshore WSI will ensure that the Proposed Development will not cause harm to known heritage assets throughout the lifetime of the project.
- There is an inevitable risk during construction, operation and decommissioning that harm may be caused to potential heritage assets.
- While indirect impacts to heritage assets from changes to physical processes will not likely occur during construction or decommissioning due to the presence of the AEZs, minor harm is likely to occur to such assets from physical processes caused during the operation of the Proposed Development from the presence of the infrastructure proposed.
- The setting of marine heritage assets and of the HSC would be harmed in a minor way by the presence of the Proposed Development.

22.6.2. For cumulative effects, the ExA has found that:

- It is not possible to avoid heritage assets that have not yet been discovered and therefore although reduced by mitigation there is a risk that harm will arise to potential heritage assets cumulatively with East Anglia Two.
- The large-scale archaeological assessment of geophysical and geotechnical survey data and the opportunities that this could lead to has the potential to have a positive effect.
- The change from a largely open seascape to a more industrialised one would cause harm to the wide-open expanses of the HSC. While noting the capacity of this seascape to accept change, the ExA consider such cumulative change to cause harm.

22.6.3. When considering all matters in the round, the ExA concludes that:

- The Proposed Development could cause harm to unknown heritage assets, would likely cause harm to known heritage assets through physical processes during the operation of the Proposed Development and would cause harm to the setting of marine heritage assets and the character of the HSC. Cumulatively harm would be caused to unknown heritage assets and on the character of the HSC. Such harm identified would not be outweighed by the positive effects of the proposal on the expansion of marine archaeological knowledge and as such harm of a low negative weighting is to be carried forward in the planning balance.

23. FINDINGS AND CONCLUSIONS IN RELATION TO OFFSHORE SOCIO-ECONOMIC & OTHER EFFECTS

23.1. INTRODUCTION

23.1.1. This chapter considers the matters relating to offshore socio-economic matters - which comprises effects on fishing, shipping and aviation. The chapter draws upon Chapters 13, 14 and 15 of the Environmental Statement (ES); 'Commercial Fisheries' [APP-061], 'Shipping and Navigation' [APP-062], and 'Civil and Military Aviation and Radar' respectively [APP-063]. A more substantial focus on aviation matters reflects a proportionate response to the issues raised in Examination.

23.1.2. The chapter is split into the sections to cover the above three matters, with each section containing the following sections.

- Policy Considerations
- The Applicant's Case
- Planning Issues
- ExA Response
- Conclusion

There then follows an overarching conclusion.

23.2. FISHING

Policy Considerations

National Policy Statement for Renewable Energy Infrastructure (EN-3) (NPS EN-3)

23.2.1. Paragraphs from 2.6.121 to 2.6.136 of NPS EN-3 seek engagement between the Applicants, statutory advisors and representatives of the fishing industry, seeking to maximise effective cohabitation (paragraph 2.6.127-8). Detailed surveys of fish stocks should be sought (2.6.129) and consultation should also occur around the possible need to establish safety zones, limiting fishing access (paragraph 2.6.131).

23.2.2. The SoS should be satisfied that site selection has reasonably minimised adverse effects on fish stocks (Paragraph 2.6.132) and the effective consultation with the fishing sector on co-existence has also taken place (paragraph 2-6-133). Reasonable mitigation, derived from outcomes from consultation with the fishing sector should seek to enhance (where possible) medium to long term benefits to the sector, whilst also alleviating any construction and operational disruption, particularly due to safety zones.

East Inshore and East Offshore Marine Plans

23.2.3. Policy FISH1 seeks to avoid development that prevents fishing activity or access to fishing grounds, but where this cannot be avoided calls for

minimisation of adverse effects, mitigation where minimisation cannot be achieved or a specific case to be made for proceeding with unmitigated effects.

- 23.2.4. Policy FISH2 seeks the same outcomes as FISH1, but with respect to development affecting fish spawning and nursery areas and associated habitat.

The Applicant's Case

- 23.2.5. Chapter 13 of the ES addresses Commercial Fisheries [APP-061]. Chapter 10 of the ES addresses Fish and Shellfish Ecology [APP-058], which also addresses commercially relevant fish species. Extensive technical background documents supporting fisheries assessments are also set out addressing sea bass fishing areas [APP-140], [APP-171], commercial fisheries [APP-182] including historical fishing rights [APP-185], Dutch fishing data [APP-186 to 199], Belgian fishing data [APP-200 to 205], UK fisheries landings and methods [APP-206 to 213], French fishing data [APP-214 to 217], Danish fishing data [APP-218 to 219] and German vessel density [APP-220]. Further cumulative impact data can be found in the following documents [APP-223 to 234]. Commercial fisheries consultation responses are set out at [APP-472 and 473]. An Outline Fisheries Liaison and Coexistence Plan was also provided [REP3-050].

- 23.2.6. Statements of Common Ground were also prepared with:

- Eastern Inshore Fisheries and Conservation Authority (IFCA) [REP8-135] (signed), with all matters agreed to be closed or agreed (pending relevant NE advice, but with a reservation on cumulative effects);
- NFFO and VisNed [REP8-119] (signed), with general agreement but with reservations on survey methodology, on the minimum spacing of WTGs, on the willingness of individual vessel masters to resume fishing within array OWF areas and on cumulative effects; and
- Commercial Fisheries Working Group (CFWG) [REP8-120] (signed), with general agreement, but minor reservations on the use of an additional offshore fisheries liaison officer where possible, and on the need for close monitoring of potential cable exposures.

General impacts (including construction, operation and decommissioning)

- 23.2.7. The offshore construction window is considered to be in the region of 27 months. The principal construction impacts (worst case) are the imposition of rolling 500m safety zones around construction works, 50m safety zones around installed or partially installed infrastructure and 500m advisory safety zones along exposed sections of cables. The effect during the later stages of construction could amount to the exclusion of fishing activity from the entire OWF area, and increased journey times to those fishing grounds that remain accessible. Interference caused by up to 74 construction vessels and safety issues arising from the placement of cables and WTGs are also relevant.

- 23.2.8. Construction impacts can be characterised in the following summary terms:
- Potential impacts on commercially exploited fish and shellfish populations: no more than minor adverse effects;
 - Temporary loss or restricted access to traditional fishing grounds, considered on a fleet basis for Dutch, Belgian, UK, Danish and German vessels: generally minor adverse or negligible effects, once mitigation is applied;
 - Temporary relocation of fishing activity/ displacement: no more than minor adverse effects;
 - Increased journey times to fishing grounds: negligible effects;
 - Interference with fishing activities: negligible effects; and
 - Safety impacts for fishing vessels and seabed obstacles: safety is considered to remain within acceptable limits as defined in the Navigation Risk Assessment (NRA) (see section 23.3).
- 23.2.9. Operational effects are more limited, with safety zones required only for major operation and maintenance works, but the positions of WTGs, cables and cable protection causing enduring risks to fishing operations.
- 23.2.10. Operational impacts can be characterised in the following summary terms:
- Potential impacts on commercially exploited fish and shellfish populations: no more than minor adverse effects;
 - Enduring loss or restricted access to traditional fishing grounds, considered on a fleet basis for Dutch, Belgian, UK, Danish and German vessels: generally minor adverse or negligible effects, once mitigation is applied and noting the general presumption of a resumption of general fishing access to the array area;
 - Enduring relocation of fishing activity/ displacement: no more than minor adverse effects;
 - Increased journey times to fishing grounds: negligible effects;
 - Interference with fishing activities: negligible effects; and
 - Safety impacts for fishing vessels and seabed obstacles: safety is considered to remain within acceptable limits as defined in the Navigation Risk Assessment (NRA) (see section 23.3).
- 23.2.11. Decommissioning effects are not quantified but are considered to be equivalent in scale and adversity to construction effects.

Cumulative impacts

- 23.2.12. The ES considers the cumulative impact of the Proposed Development along with the other East Anglia application, and a broad range of other OWF and aggregate dredging areas (see Table 13.15 [APP-061]) together with the effect of Marine Protected areas. Impacts are all minor adverse or negligible for construction, operation or decommissioning, with the exception of a moderate adverse effect for Dutch and UK Beam Trawlers and Dutch Seine Netters, which is a significant adverse impact in EIA terms.

- 23.2.13. Cumulative effects were broadly agreed with stakeholders. However, a reservation must be noted from the Eastern IFCA [REP8-135] which remains concerned that the full scale of OWF development in the southern North Sea is not fully represented.

Other Matters

- 23.2.14. Transboundary impacts are integrated into the assessment of effects on specific fleets, which include Dutch vessels for whom a moderate adverse cumulative effect is noted.

Planning Issues

- 23.2.15. This section takes into account all matters arising in relation to fishing and fisheries.
- 23.2.16. The issue of fishing and fisheries impacts was not a strongly contentious issue during the Examination and was raised largely in writing by technical and sector stakeholders. Relevant Representations (RRs) were received from the Eastern Inshore Fisheries and Conservation Authority (IFCA) [RR-036], the Harwich Harbour Fishermen's Association [RR-046], the National Federation of Fishermen's Organisations (NFFO) [RR-055] and the Norfolk Independent Fishermen Association [RR-061] in addition to others with individual interests.
- 23.2.17. Paragraph 23.2.6 above records the signed Statements of Common Ground received from the Eastern IFCA, NFFO and VisNed and CFWG, within which general agreement was reached across a broad range of EIA assessments. Stakeholders broadly concurred with the Applicants' assessment of impacts, with the primary reservations relating to elements of survey methodology, the operational effect of WTGs and cables in the array areas, reducing the willingness of individual vessel masters to fish in those areas, and expressing the concern that cumulative effects may be greater than suggested.
- 23.2.18. However, no detailed evidence was advanced to rebut the Applicant's assessment and nor were specific requests made to provide or secure additional mitigations.

ExA Response

General impacts (including construction, operation and decommissioning)

- 23.2.19. The ExA notes the general conclusion of negligible to minor adverse effects for construction, operation and decommissioning, together with general agreement between the Applicant and relevant stakeholders in SoCGs. The absence of specific evidence challenging the Applicant's conclusions or requests for additional mitigation or security is also noted.
- 23.2.20. NPS and Marine Plan policies have been complied with. Whilst there are residual adverse impacts these are not significant in EIA terms and appropriate mitigation measures have been put into place.

Cumulative impacts

- 23.2.21. The moderate adverse effect on some UK and Dutch vessels is noted. However, on balance and in the absence of specific contrary evidence, the ExA equally concludes that all applicable policy has been complied with, as impacts have been identified and appropriate mitigation applied.

Conclusion

- 23.2.22. This section sets out the ExA's conclusions on the effects of the Proposed Development on shipping. Taking all relevant evidence and policies into account, the ExA has found as follows.
- Herring stocks are adequately safeguarded through the imposition of Deemed Marine Licenses (DMLs) conditions on herring spawning.
 - Conditions limiting piling and unexploded ordnance (UXO) detonations also secure the interests of the fishing sector and protect fish stocks.
 - On balance the Proposed Development is policy compliant in respect of fishing effects. Significant adverse effects in combinations on some Dutch and UK vessels must be noted but all reasonable steps have been taken to control these effects.

23.3. SHIPPING

Policy Considerations

National Policy Statement for Renewable Energy Infrastructure (EN-3) (NPS EN-3)

- 23.3.1. Paragraphs from 2.6.147 to 2.6.175 of NPS EN-3 seek engagement between the Applicants, the Marine Management Organisation (MMO), the Maritime and Coastguard Agency (MCA), Trinity House (the general lighthouse authority) and representatives of the commercial shipping and recreational boating sectors. This engagement, like that for fisheries, should seek to maximise effective cohabitation with these sectors (paragraph 2.6.153-4).
- 23.3.2. A navigational risk assessment (NRA) should be undertaken, in consultation with the MCA and other navigation stakeholders (2.6.156-7) and consultation should also occur around the possible limitation of navigation due to the installation of infrastructure or the need to establish safety zones, (paragraph 2.6.158-9). Recreational as well as commercial shipping stakeholders should be engaged in this process (paragraph 2.6.160).
- 23.3.3. The SoS should not grant development consent where interference with the use of recognised sea lanes essential to international navigation is caused (paragraph 2.6.161). Wider disruption to or economic loss to the shipping and navigation sectors should be minimised (paragraph 2.6.162). Navigational risk on less strategically important shipping routes should be reduced to as low as reasonably practicable (ALARP) (paragraph 2.6.163), but the SoS should not consent applications which pose unacceptable navigation risks after mitigation has been applied

(2.6.165). The continuity of search and rescue activities, and ongoing utilisation of waters by recreational craft must also be taken into account.

East Inshore and East Offshore Marine Plans

- 23.3.4. Policy PS2 presumes against the authorisation of proposals for static infrastructure that encroach on important navigation routes.
- 23.3.5. Policy PS3 seeks to safeguard the current and potential future operation of ports and harbours.

MCA and IMO Guidance

- 23.3.6. MCA Marine Guidance Note (MGN) 543 Offshore Renewable Energy Installations (OREIs): Guidance of UK Navigational Practice, Safety and Emergency Response (MCA 2016) is applicable, as is the MCA Methodology for Assessing the Marine Navigational Safety of Offshore Wind Farms (MCA 2015) and the International Maritime Organisation (IMO) Guidelines for Formal Safety Assessment (FSA) (IMO 2002).

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- 23.3.7. Chapter 14 of the ES addresses Shipping and Navigation [APP-062]. Additional information is provided in the form of the Navigational Features Overview [APP-235], Shipping sector consultation response are provided in [APP-474] a Navigation Risk Assessment (NRA) [APP-475] and Outline Navigation Monitoring Strategy [APP-595] were also provided. Data on recreational boating was sourced from the RYA Coastal Atlas [APP-239]. The effects of the WTG array and of all associated cabling are considered.
- 23.3.8. Statements of Common Ground were prepared with the following bodies:
 - the UK Chamber of Shipping [REP8-121]. This is signed and all main matters are agreed.
 - The MCA [REP8-133]. This is signed and all matters are agreed.

General impacts (including construction, operation and decommissioning)

- 23.3.9. General descriptions of impacts in terms of duration of construction and the extent of installation of infrastructure with potential effects on shipping are broadly equivalent to those for fishing (see paragraph 23.2.7).
- 23.3.10. Construction, operational and decommissioning impacts are assessed for the WTG array area and for the cable alignments. They can be characterised in the following summary terms²⁷:
 - Impact on commercial vessel routeing: displacement of commercial vessels due to construction and safety zones;

²⁷ An impact on commercial fishing vessels is included in the Applicant's analysis. However, fishing effects are considered in Section 23.2 of this Chapter.

- Impact on commercial vessel safe navigation;
- Impact on recreational vessels: displacement of recreational vessels due to construction and safety zones; and
- Impact on emergency response capability.

23.3.11. All impacts are characterised in the range from 'no perceptible effect' via 'broadly acceptable' to 'tolerable and ALARP'. The highest impact ('tolerable and ALARP') applies to commercial vessel safe navigation in construction and operation.

23.3.12. The Applicants commit to embedded mitigation measures relevant to shipping and navigation which are secured within the DCO.

- Meeting the applicable requirements of MGN 543 and its annexes;
- Lighting and marking of the East Anglia ONE North windfarm site in line with IALA guidance O-139 (2013), to be agreed with Trinity House and the MCA post consent;
- WTGs to have at least 22m air clearance above Mean High Water Spring
- Cable protection via burial (or alternative methods where burial is not feasible), including maintenance and monitoring of the protection during the operational phase. A Cable Burial Risk Assessment will be developed post consent;
- Marking of structures and cables on appropriately scaled navigational charts;
- Compliance from all construction vessels with international regulations as adopted by the flag state (International Convention for the Prevention of Collision at Sea (COLREGS) (IMO 1972) and International Convention for the Safety of Life at Sea (SOLAS) (IMO 1974));
- Dedicated Marine Coordination Centre to manage on site vessels; and
- Development of an Emergency Response Cooperation Plan (ERCoP).

23.3.13. Additional mitigation where required to achieve navigation risk reduction to ALARP include:

- Appropriate use of guard vessels during construction and any major maintenance period;
- Assessment of under-keel clearance compliance with MCA and RYA guidance;
- All safety zones applied for with Safety Zone Statements during construction or major maintenance; and
- Notices to Mariners provided.

23.3.14. Monitoring frameworks are proposed via the Offshore In-Principle Monitoring Plan [APP-590], the outline Offshore Operations and Maintenance Plan (oOOMP) [APP-589] and the outline Navigation Monitoring Strategy [APP-595], secured in the DCO.

Cumulative impacts

23.3.15. The ES considers the cumulative impact of the Proposed Development in terms of commercial vessel routing, commercial vessel safe navigation, recreational craft and emergency response capabilities. Potential

cumulative effects were identified for the WTG array area only (ie not the cable corridors) and for commercial vessel routing and safe operation only. All impacts remain in the range 'broadly acceptable' or 'tolerable and ALARP'

Other Matters

- 23.3.16. Commercial vessels are considered as transboundary in nature.

Planning Issues

- 23.3.17. This Section takes into account all matters arising in relation to commercial and recreational shipping and boating, together with navigational safety at sea and search and rescue operations at sea.
- 23.3.18. The issue of shipping and navigation impacts was not a contentious issue during the Examination and was raised on a limited basis only by technical stakeholders. RRs were received from the MMO [RR-052], the MCA [RR-053], Trinity House (the general lighthouse authority) [RR-029] and CLdN Group [RR-026] a roll-on roll-off (ro-ro) shipping operator.
- 23.3.19. The MMO did not raise any matters relevant to shipping and navigation. The MCA assisted the Examination and responded to questions, but had secured agreement with all relevant matters in its Statement of Common Ground by D8 [REP8-133]. CLdN group did not anticipate any effect on shipping operations, provided that there was adequate future monitoring and mitigation was put in place as proposed.
- 23.3.20. As with fishing and fisheries, no detailed evidence was advanced to rebut the assessment positions set out in the ES and supporting evidence provided by the Applicant.

ExA Response

General impacts (including construction, operation and decommissioning)

- 23.3.21. The ExA notes the general conclusion that effects range from 'no perceptible effect' via 'broadly acceptable' to 'tolerable and ALARP' for construction, operation and decommissioning, together with general agreement between the Applicant and relevant stakeholders in SoCGs. The absence of specific evidence challenging the Applicant's conclusions or requests for additional mitigation or security is also noted.
- 23.3.22. NPS and Marine Plan policies have been complied with. For the purposes of a NRA, the achievement of a reduction of navigational risk to ALARP is policy compliant. Whilst there are residual adverse impacts, these are not significant in EIA terms and appropriate mitigation measures have been put into place.

Cumulative impacts

- 23.3.23. Effects range from 'broadly acceptable' to 'tolerable and ALARP'. However, on balance and in the absence of specific contrary evidence,

the ExA equally concludes that all applicable policy has been complied with, as impacts have been identified and appropriate mitigation applied.

Conclusion

23.3.24. This section sets out the ExA's conclusions on the effects of the Proposed Development on shipping. Taking all relevant evidence and policies into account, the ExA has found as follows.

- The Deemed Marine Licenses (DMLs) secure appropriate navigational markings (aids to navigation) and Trinity House is required to be notified of construction works.
- There are no remaining risks to navigation that have not been mitigated to an appropriate level.
- On balance, the Proposed Development is policy compliant with respect to its effects on shipping and navigation.

23.4. Aviation

Policy Considerations

Overarching National Policy Statement for Energy (EN-1) (NPS EN-1)

- 23.4.1. Paragraph 5.4.2 of NPS EN-1 states that it is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new energy infrastructure and that where a Proposed Development may have an effect on civil or military aviation and/or other defence assets an assessment of potential effects should be set out in the ES (paragraph 5.4.10). The applicant should consult the Ministry of Defence (MoD), the Civil Aviation Authority (CAA), National Air Traffic Services (NATS) and any aerodrome – licensed or otherwise – likely to be affected by the Proposed Development in preparing an assessment of the proposal on aviation or other defence interests (paragraph 5.4.11).
- 23.4.2. NPS EN-1 also states that any assessment of aviation or other defence interests should include the potential impacts of the Proposed Development upon the operation of communication, navigation and surveillance (CNS) infrastructure, flight patterns (both civil and military), other defence assets and aerodrome operational procedures, and that it should also assess the cumulative effects of the project with other relevant projects in relation to aviation and defence.
- 23.4.3. Paragraph 5.4.14 notes that the SoS should be satisfied that the effects on civil and military aerodromes, aviation technical sites and other defence assets have been addressed by the Applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, it should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out.

- 23.4.4. When assessing the necessity, acceptability and reasonableness of operational changes to aerodromes, the SoS should satisfy itself that it has the necessary information regarding the operational procedures along with any demonstrable risks or harm of such changes, taking into account the cases put forward by all parties (paragraph 5.4.14) and where there are conflicts between the Government's energy and transport policies and military interests in relation to the application, the SoS expects the relevant parties to have made appropriate efforts to work together to identify realistic and pragmatic solutions to the conflicts (5.4.15).
- 23.4.5. NPS EN-1 also notes (paragraph 5.4.18) that where a proposed energy infrastructure development would significantly impede or compromise the safe and effective use of civil or military aviation or defence assets and or significantly limit military training, the SoS may consider the use of 'Grampian' or other forms of condition which relate to the use of future technological solutions, to mitigate impacts. Where technological solutions have not yet been developed or proven, the SoS will need to consider the likelihood of a solution becoming available within the time limit for implementation of the development consent

Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002

- 23.4.6. Certain civil aerodromes, on the basis of their importance to the national air transport system, are officially safeguarded in order to ensure that their operation is not impacted upon by Proposed Developments. Aerodrome safeguarding covers aspects such as: protecting the airspace around an aerodrome to ensure no structures may cause danger to aircraft either in the air or on the ground, protecting the integrity of radar and other electronic aids to navigation and protecting aircraft from the risk of collision with obstacles through appropriate lighting.

The Applicant's Case

Introduction

- 23.4.7. This section is organised to consider the scope and methodology of the ES first, before considering the existing environment and potential impacts of the Proposed Development. Cumulative effects are then considered.

Scope, Methodology, and Existing Environment

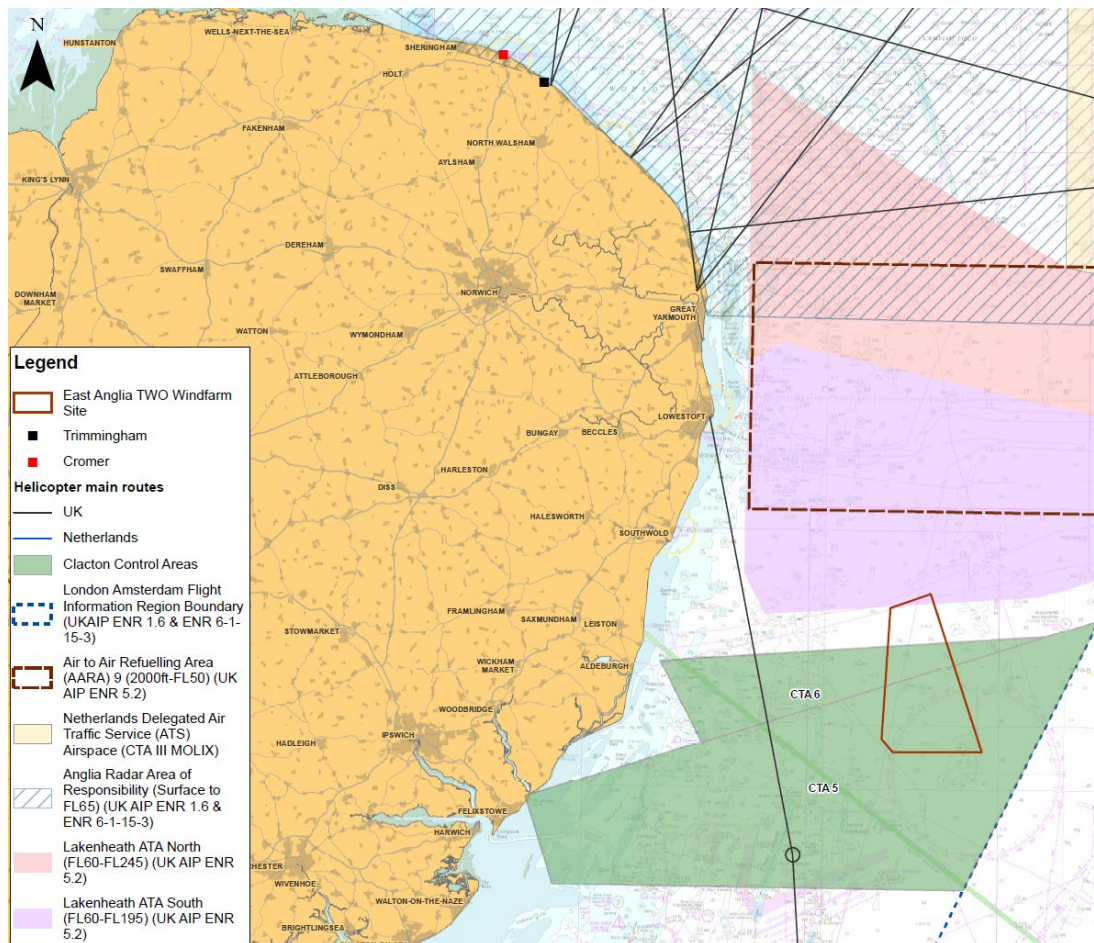
- 23.4.8. Consultation with civil and military aviation stakeholders identified that the main potential issue concerning aviation and the Proposed Development was wind turbine interference with Primary Surveillance Radars (PSR), but that there was also potential for the proposed wind turbines to become aviation obstacles or obstructions, particularly to helicopters engaged in offshore operations. Due to the distance from the shore, effects on secondary surveillance radars (SSR), terrestrial based CNS infrastructure, and airport's safeguarded obstacle limitation surfaces

were ruled out. No public consultation specific to aviation was raised during public consultation events prior to the production of the ES.

23.4.9. The nearest civil airport to the proposed wind farm is Norwich International Airport, which lies around 76km away. The nearest European Airport lies some 102km away (Ostend-Bruges). The proposed wind farm lies within the London Flight Information Region (FIR) for air traffic control (ATC). NERL provides en-route civil air traffic services within the London FIR, with their closest radar sited at Cromer. Preliminary analysis showed that the northern section of the windfarm site would be within the Radar Line of Sight (RLoS) for the Cromer radar.

23.4.10. The nearest military aviation radar is the MoD's radar at Trimmingham, and preliminary analysis also showed that the northern section of the windfarm site would be within the Radar Line of Sight (RLoS) for this radar.

Figure 1: Civil Aviation and Radar in the vicinity of the proposed wind farm [Excerpt from ES Figure 15.1 [APP-241]



23.4.11. Immediately above the proposed windfarm, to varying levels, the airspace is classed as 'Class G', which is uncontrolled airspace and as such is transited by civilian and military aviation uncontrolled by air traffic control. As can be seen from figure above, above this area Class A controlled airspace (Clacton TA5 & Clacton TA6) exists, and the north

eastern corner of the windfarm site is also marginally overlain by the RAF Lakenheath ATA where air combat training takes place (between 6,000ft and 19,500ft above mean sea level). Both controlled areas of airspace are controlled by controllers at NERLs Swanwick Control Centre. No helicopter main routes (HMRs) transit the proposed wind farm site.

- 23.4.12. Radar modelling was undertaken on two worst case scenarios of 60 turbines with a tip height of 300m and 75 turbines with a height of 250m.

Potential Impacts – Construction

- 23.4.13. For the creation of obstacles in the environment, notification, marking and lighting of the proposed site during construction to make pilots aware of the site is stated to reduce any risk to an acceptable level, with impact assessed to be not significant.
- 23.4.14. As regards radar impact, the wind turbines would not be detected by radar until such time as the turbine blades rotated at operational speeds. There would be no impact therefore during construction.
- 23.4.15. The use of helicopters to support construction activities could impact on existing air traffic. However, as there are no HMRs in the site the impact is considered to be not significant.

Potential Impacts – Operation and decommissioning

- 23.4.16. For the creation of obstacles in the environment, notification, marking and lighting of the turbines to make pilots aware of the site is stated to reduce any risk to an acceptable level, with impact assessed to be not significant.
- 23.4.17. As regards radar impact, the presence of the site within the RLoS of both Cromer and Trimmingham radars would lead to their detection by the radars. The number of turbines detected would depend on the maximum tip height and the detailed windfarm configuration. Wind turbines have the potential to generate 'clutter' upon radar displays, as current generation radars are unable to differentiate between the moving blades of wind turbines and aircraft, and as a consequence radar operators can be unable to distinguish between primary radar returns generated by wind turbines or by aircraft, leading to issues of safety. The ES states that next generation radars should be able to distinguish between wind turbine and aircraft returns.
- 23.4.18. Interim mitigation is therefore proposed to be secured through the draft DCO in the following ways:
- For Cromer
 - Blanking the relevant areas of the windfarm site within the radar.
 - Introducing a Transponder Mandatory Zone (TMZ) where the blanked area exceeds a certain size, requiring all equipped aircraft within the area to enable controllers to track aircraft through the 'black hole' of the blanked area.

- Using alternative radars to infill coverage of the windfarm area.
- For Trimingham
 - The application of a Non-Auto Initiation Zone for the windfarm site. However, the ES notes that MoD has stated that such zones have not performed to expectation in other locations and concern is expected from the MoD on this basis.
 - Installation of a long-range Holographic Radar to provide infill cover.

23.4.19. Without such mitigation, the impact is assessed as major significant; however, the ES considers with the mitigation above the impact would be reduced to not significant.

23.4.20. The use of helicopters to support construction activities could impact on existing air traffic. However, as there are no HMRs in the site the impact is considered to be not significant.

23.4.21. During the decommissioning all impacts are assessed as no change or not significant.

Cumulative impacts

23.4.22. The ES considers the cumulative impact of the Proposed Development along with the other East Anglia application, as well as with Greater Gabbard, Galloper, Scroby Sands, East Anglia One, and East Anglia Three windfarms.

23.4.23. Through the use of embedded mitigation such as lighting, reliance on pilot competence and consideration of charted obstacles, the cumulative effects from the creation of an obstacle environment is considered to be not significant.

23.4.24. For the other East Anglia application modelling undertaken in the ES for that project suggests that radar arcs will extend into that proposed windfarm site. Therefore, as for the Proposed Development, without additional mitigation applied to the EA2 and the EA1N site the impact is considered to be major significant. However, the Applicant is confident that proposed technical or design mitigation measures would reduce the impact significance to not significant.

23.4.25. For the other five windfarms they are either too far from the proposed windfarm (East Anglian Three, Scroby Sands) to have a cumulative effect or are to detected by radar currently (Greater Gabbard, Galloper, East Anglia One).

Other Matters

23.4.26. Transboundary impacts and inter-relationships with the maritime community due to potential confusion from lighting are considered to be not significant.

Planning Issues

- 23.4.27. The issue of aviation impacts was not a contentious issue during the Examination and was an issue that was raised solely by technical stakeholders.
- 23.4.28. In their RR [RR-058] NATS stated that they anticipated an impact on its infrastructure; specifically, on their Cromer radar, with the proposed wind farm leading to substantial “clutter”. They noted that the anticipated impact is deemed to be unacceptable, and they objected to the Proposed Development. However, they noted that they were in conversations with the Applicant and while a solution had not been identified they believed that one would be forthcoming.
- 23.4.29. A draft Statement of Common Ground (SoCG) for the Applicant and NATS was submitted by the Applicant in June 2020 [AS-057] which agreed all matters apart from the wording of a requirement in the dDCO to mitigate effects on the Cromer Radar. A final signed version of this SoCG was submitted at D12 [REP12-072] which agreed said wording for Requirement 35. NATS confirmed the removal of their previous objection at D13 [REP13-134] together with confirmation of the DCO wording; the Applicant confirmed agreement with this at D13 [REP13-133].
- 23.4.30. At D8 a signed SoCG [REP8-122] was submitted for the Applicant and the CAA which confirmed the CAA’s agreement to a proposed Requirement in the dDCO concerning aviation lighting (requirement 31); this requirement had been altered during the course of the examination, prior to the agreement of the SoCG, in order to mitigate the potential impact of the wind turbine lighting upon the Suffolk Coasts and Heaths AONB.
- 23.4.31. The Defence Infrastructure Organisation on behalf of the MoD noted in their RR [RR-054] that the proposed wind farm would cause unacceptable and unmanageable interference to the effective operation of the air defence radar at RRH Trimingham. However, they also noted that the Applicant has identified a technical mitigation concept to address such adverse impacts and had proposed three separate dDCO requirements. They noted that the wording of two of these (13 and 31) was acceptable to the MoD but proposed alternative wording for the third (34).
- 23.4.32. At D3 [REP3-105] the Defence Infrastructure Organisation (on behalf of the MoD) stated that they had been in discussions with the Applicant over the proposed Requirement 34 and had agreed revised wording. At D6 [REP6-106], they confirmed that the MoD was content in answer to a written question from the ExA over the reduced lighting proposed in requirement 31. At D8 [REP8-106] a signed and agreed SoCG between the Applicant and the MoD was submitted. This confirmed agreement between the parties to the wording and mitigation proposed in the dDCO.

ExA Response

- 23.4.33. The ExA has reviewed the effects of the Proposed Development and the proposed mitigation measures in relation to any aviation impacts.

- 23.4.34. Due to the nature of the subject no specific unaccompanied site visits took place to consider the matter. As mentioned above, the issue of aviation was not a contentious one during the examination and no Issue Specific Hearings were held to consider the matter.

Potential Impacts - Construction

- 23.4.35. The ExA agree that impacts during construction of the proposed wind farm would not be significant, due to the proposed notification, marking and lighting of the proposed site, as the wind turbines would not be 'seen' by radar and due to the lack of an HMR in the proposed site.

Potential Impacts – Operation and decommissioning

- 23.4.36. The ExA agree that for the creation of obstacles in the environment, notification, marking and lighting of the turbines would reduce the risk to an acceptable level, and that impact would not be significant. In this context the ExA notes the alteration to the proposed lighting of the turbines during the examination to mitigate seascape effects and the agreement of all relevant technical aviation stakeholders to this change.
- 23.4.37. The Proposed Development would have an adverse impact on aviation safety, by the creation of 'clutter' upon the screens of air traffic controllers of both NATS for the Cromer radar and the MoD for the Trimmingham Radar. However, the ExA notes the agreement of NATS and the MoD to proposed mitigation as proposed and secured in the draft DCO. On this basis the ExA agrees that such mitigation reduces the impact of the Proposed Development to not significant.
- 23.4.38. The ExA agree that due to the lack of HMRs within the windfarm site the Proposed Development would not impact on existing air traffic during operation.
- 23.4.39. The ExA agree that the decommissioning of the Proposed Development would not have an adverse impact.

Cumulative impacts

- 23.4.40. The ExA agrees that the Proposed Development has the potential cumulatively with the other East Anglia application to have a significant adverse impact on aviation safety. However, based on the evidence submitted and the comments of stakeholders the ExA agrees that the proposed mitigation as secured in the dDCO will reduce the impact to be not significant.
- 23.4.41. The ExA agrees that the Proposed Developments would not have an adverse effect cumulatively with Greater Gabbard, Galloper, Scroby Sands, East Anglia One, and East Anglia Three windfarms.
- 23.4.42. The ExA agree that transboundary impacts and inter-relationships with the maritime community due to potential confusion from lighting would not be significant.

Conclusion on Aviation

23.4.43. This section sets out the ExA's conclusions on the effects of the Proposed Development on aviation. Taking all relevant evidence and policies into account, the ExA has found as follows.

- The Applicant has adequately provided the required information and the Proposed Development complies in this respect with Policy statement EN1.
- Impacts during construction of the proposed wind farm would not be significant.
- With the imposition of agreed Requirements 31, 34 and 35 in the dDCO and the mitigation measures included within them, impacts during the operation of the proposed wind farm would not be significant.
- Impacts during the decommissioning of the proposed wind farm would not be significant.

23.4.44. For cumulative effects, the ExA has found that:

- With the imposition of agreed Requirements 31, 34 and 35 in the dDCO and in the dDCO for the other East Anglia operation, cumulative impacts during the operation of the proposed wind farms would not be significant.
- The Proposed Development would not have a cumulative impact with Greater Gabbard, Galloper, Scroby Sands, East Anglia One, and East Anglia Three windfarms

23.4.45. When considering all matters in the round, the ExA concludes that:

- Due to the mitigation inherent within agreed Requirements 13, 34 and 34, the Proposed Development would not cause harm to aviation safety. As such neutral weight on this matter will be carried forward in the planning balance.

23.5. CONCLUSIONS

23.5.1. In this chapter the ExA has concluded:

- For fishing, with mitigation in place, the Proposed Development would not cause harm and as such neutral weight on this matter will be carried forward in the planning balance.
- For shipping and navigation, with mitigation in place, the Proposed Development will achieve at least a reduction of navigational risk to ALARP and as such neutral weight on this matter will be carried forward in the planning balance.
- For aviation, due to the mitigation inherent within agreed Requirements 13, 34 and 35, the Proposed Development would not cause harm to aviation safety and as such neutral weight on this matter will be carried forward in the planning balance.

23.5.2. The ExA therefore conclude that for the matters of offshore socio-economics:

- With the relevant mitigations assigned and secured, an overall neutral weight on this matter will be carried forward to the planning balance.

OVERARCHING ANALYSIS

- Chapter 24: Habitats Regulations Assessment
- Chapter 25: Alternatives
- Chapter 26: Good Design
- Chapter 27: Other Overarching Matters

24. FINDINGS AND CONCLUSIONS IN RELATION TO HABITATS REGULATIONS ASSESSMENT

24.1. INTRODUCTION

- 24.1.1. This Chapter sets out the ExA's analysis and conclusions relevant to the Habitats Regulation Assessment (HRA). This will assist the Secretary of State for Business, Energy and Industrial Strategy (SoS), as the competent authority, in performing their duties under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations').
- 24.1.2. These matters are discussed in the remainder of this Chapter, which is structured as follows:
- Findings in relation to Likely Significant Effects on the UK National Site Network and European sites (Section 24.2);
 - Conservation objectives for sites and features (Section 24.3);
 - Findings in relation to Adverse Effects On Integrity (Section 24.4);
 - Alternative solutions considered (Section 24.5);
 - Imperative Reasons of Overriding Public Interest (IROPI) (Section 24.6);
 - Compensation measures (Section 24.7); and
 - HRA conclusions (Section 24.8).
- 24.1.3. The Proposed Development is not connected with or necessary to the management for nature conservation of any European site(s). Regulation 63 of the Habitats Regulations states that if a plan or project is likely to significantly affect a European site or European offshore site designated under the Habitats Regulations (either alone or in combination with other plans or projects), then the competent authority must undertake an appropriate assessment of the implications for that site in view of its conservation objectives. As a matter of policy, the Government applies the same procedures to several other internationally designated sites, including Ramsar sites; these are all referred to in this report hereafter as European sites²⁸. Consent for the Proposed Development may only be granted if, having assessed the potential adverse effects the Proposed Development could have on European sites, the competent authority considers it acceptable in light of the requirements stipulated in the Habitats Regulations.

²⁸ The term European sites in this context includes Special Areas of Conservation (SAC), Sites of Community Importance (SCI), candidate SACs (cSAC), possible SACs (pSAC), Special Protection Areas (SPA), potential SPAs (pSPA), Ramsar sites and proposed Ramsar sites for which the UK is responsible. For a full description of the designations to which the Habitats Regulations apply, and/ or are applied as a matter of Government policy, see the Planning Inspectorate's Advice Note 10.

- 24.1.4. During the Examination, the Habitats Regulations were amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 which came into force on Implementation Period Completion Day, 31 December 2020. These amendment regulations reflect the arrangements in light of the UK's departure from European Union (EU), including the introduction of new terminology, with reference to the National Site Network rather than the Natura 2000 network (which remains the collective term for sites in the EU).
- 24.1.5. The ExA has been mindful throughout the Examination of the need to ensure that the SoS has such information as may reasonably be required to carry out their duties as the competent authority. The ExA has sought evidence from the Applicant and the relevant Interested Parties (IPs), including Natural England (NE) as the Statutory Nature Conservation Body (SNCB), through written questions and Issue Specific Hearings (ISH).

Report on the Implications for European Sites (RIES) and Consultation

- 24.1.6. The ExA produced a RIES [PD-033], updated as [PD-051], which compiled, documented and signposted HRA-relevant information provided in the Development Consent Order (DCO) application and Examination representations up to 19 February 2021, and subsequently in the updated RIES, to Deadline 11 (D11) 7 June 2021. The RIES was issued to capture the understanding of HRA-relevant information and the position of the IPs in relation to the effects of the Proposed Development on European Sites at that point in time. The RIES also performs a function as a vehicle for consultation with the SNCB and other IPs. Consultation on the RIES took place between 4 March 2021 and 25 March in relation to the original publication [PD-033] and 6 June 2021 to 28 June 2021 in relation to the amended RIES [PD-051]. Comments were received at Deadline 8 (D8) from the Applicant [REP8-094] and NE [REP8-167], to which the Applicant further responded [REP9-016]. Comments on the updated RIES were submitted by NE at Deadline 12 (D12) [REP12-093].
- 24.1.7. The ExA's recommendation is that the RIES, and consultation on it, could represent an appropriate body of information to enable the SoS to fulfil their duties of consultation under regulation 63(3) of the Habitats Regulations and regulation 28(4) of the Offshore Habitats Regulations.
- 24.1.8. Relevant policy considerations and the legal obligations are described in Chapter 3 of this Report.

Proposed Development Description and HRA Implications

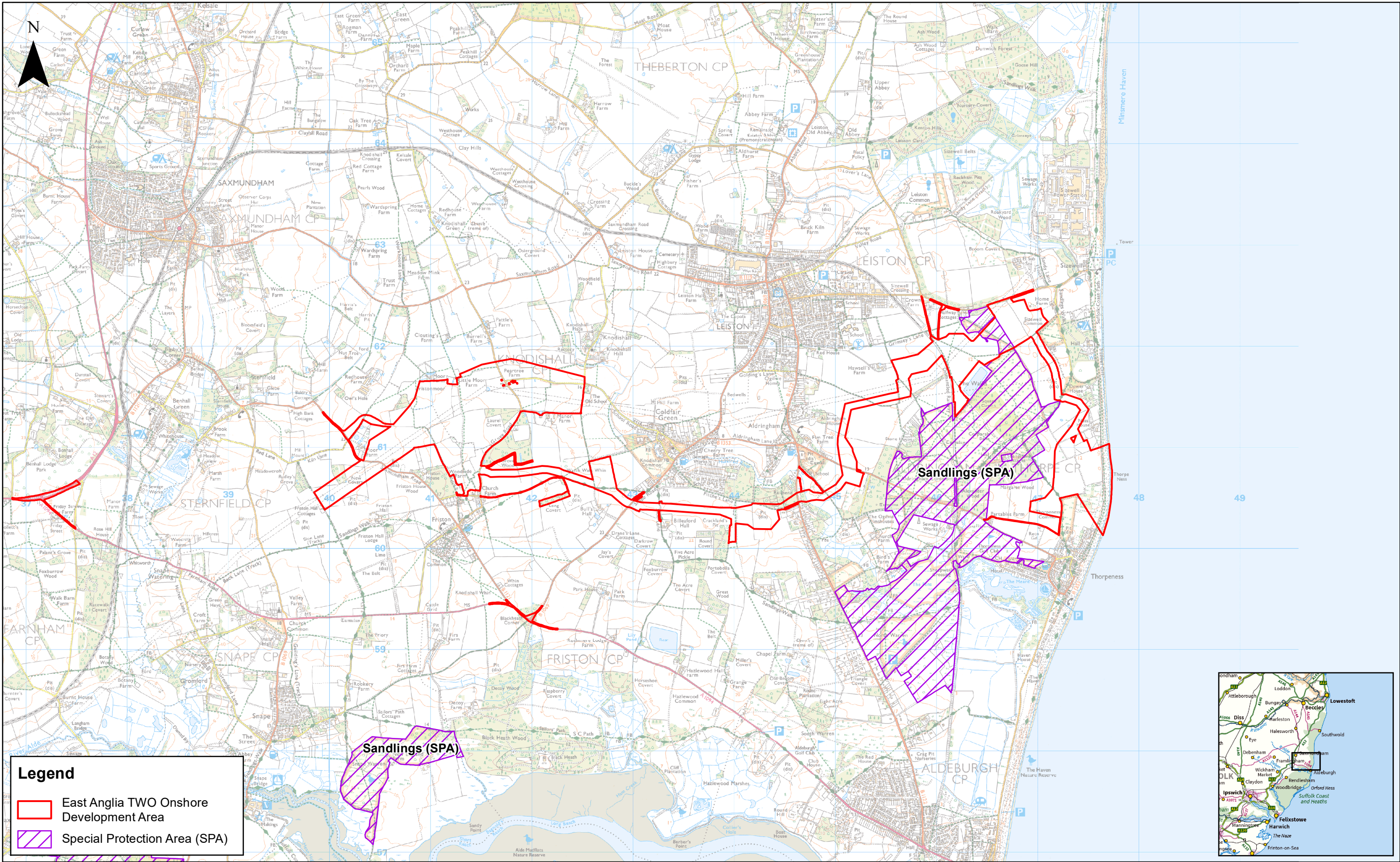
- 24.1.9. The Proposed Development is described in Chapter 2 of this Report. The Proposed Development comprises the construction and operation of up to 75 wind turbine generators (WTGs) together with up to four offshore electrical platforms, an offshore construction, operation, and

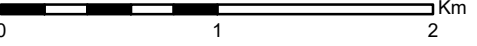
maintenance platform, a meteorological mast, inter-array cables, platform link cables and up to two export cables to landfall. The onshore development includes landfall connection works and underground cables from the landfall to a new onshore substation together with a new National Grid substation and National Grid overhead line works. Another simultaneous and separate application has been made for the **East Anglia ONE North (EA1N)** Offshore Windfarm. This application is for a separate offshore development, proposed to connect at a common landfall location. The two applications also propose to use a common onshore cable corridor and a common onshore transmission system connection point. The Proposed Development is located within the county of Suffolk onshore, and offshore within the Southern North Sea eastwards from Lowestoft.

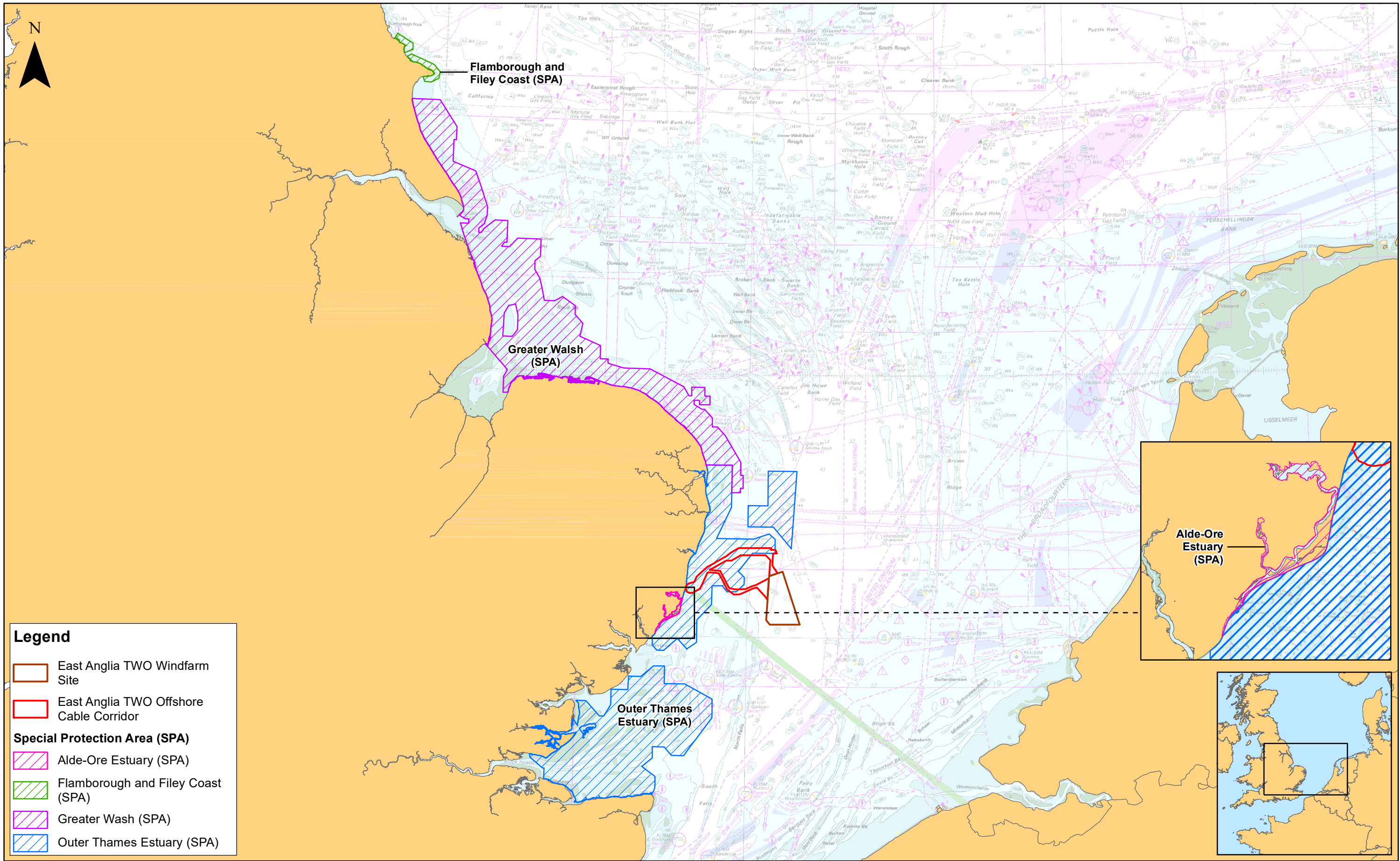
- 24.1.10. The Applicant states that the Proposed Development is not directly connected with, or necessary to, the management of a European site or a European marine site [APP-044], and no evidence exists to the contrary. Therefore, the implications of the project with respect to adverse effects on potentially affected sites must be assessed by the SoS.
- 24.1.11. The spatial relationship between the Order Limits of the Proposed Development and European sites included in the Applicant's screening exercise is shown in a series of Figures in Annex 1 within the Applicant's report '5.3.1 Habitats Regulations Assessment - Appendix 1 - Information to Support AA Report - HRA Screening Report' [APP-044]. The Applicant's HRA information submitted at the application stage considered the potential of likely significant effects (LSE) from the Proposed Development on **185** European sites located onshore and along the east coast of the UK, and offshore within the North Sea and English Channel, extending to sites in proximity to the west coast of France. The European sites subsequently screened into the Applicant's assessment are shown in Annex 1 of the Applicant's report '5.3 Habitats Regulations Assessment - Information to Support Appropriate Assessment' [APP-043], Figures 1 to 5. Copies of these Applicant figures are reproduced in this report for ease of reference. These figures comprise the following drawing numbers:
- EA2-DEV-DRG-IBR-001049;
 - EA2-DEV-DRG-IBR-001051;
 - EA2-DEV-DRG-IBR-001053;
 - O-EA2-HRA-Fig1-S1SR; and
 - O-EA2-HRA-Fig2-S1SR.
- 24.1.12. Further detail regarding the screening of likely significant effects is provided in Section 24.2 of this Chapter.
- 24.1.13. The Applicant's HRA Information to Support Appropriate Assessment Report [APP-043] presented the reasoning and evidence the Applicant relied on to identify the potential for adverse effects on integrity (AEOI) of the sites and features where LSE were identified. The Applicant's report concluded that AEOI could be excluded for all the European sites assessed. Section 24.4 of this Chapter addresses the matters of Examination relevant to the AEOI assessment.

- 24.1.14. The Applicant's assessment of effects on European sites is presented in the following suite of documents. These are referred to as 'the Applicant's HRA Report' for the purposes of this report:
- 5.3 Habitats Regulations Assessment - Information to Support Appropriate Assessment' [APP-043];
 - 5.3.1 Habitats Regulations Assessment - Appendix 1 - Information to Support AA Report - HRA Screening Report' [APP-044];
 - 5.3.2 Habitats Regulations Assessment - Appendix 2 - Information to Support AA Report - Screening Matrices [APP-045];
 - 5.3.3 Habitats Regulations Assessment - Appendix 3 - Information to Support AA Report - Integrity Matrices [APP-046]; and
 - 5.3.4 Habitats Regulations Assessment - Appendix 4 - Information to Support AA Report - Consultation Responses [APP-047].
- 24.1.15. In response to questions from the ExA (ExQ1) [PD-018], the Applicant submitted revised screening matrices at Deadline 1 (D1) [REP1-018] and a further version at Deadline 3 (D3) [REP3-016] in response to comments received from NE [REP2-057].
- 24.1.16. In addition to this, and in response to matters raised by IPs in dispute of the Applicant's conclusions against AEOI, the Applicant provided material that related to a 'without prejudice' derogations case within the Examination period (originally at D3 [REP3-053], with the final updated version at D12 [REP12-059]). The Applicant also submitted information pertaining to compensatory measures (originally at D3 [REP3-054], with the final updated version at [REP12-060]), supported by Annex 1 - Prey Availability Compensation Mechanisms [REP6-046] and a funding statement [REP8-081]. Sections 24.5 to 24.7 of this Chapter address matters of derogation and compensation proposals in relation to the draft Development Consent Order (dDCO) [REP12-013].
- 24.1.17. Following ISH3 (19 January 2021), both the Applicant [REP5-027] and NE [REP5-089] confirmed they did not consider that the introduction of changes to the Habitats Regulations 2017 through the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 had any material implications for its assessment.
- 24.1.18. During the Examination, the Applicant submitted a number of change requests which were subsequently accepted by the ExA as described in Chapter 2 of this Report. Those of relevance to HRA matters are discussed in the relevant sections in this chapter.

**Figure 24.1: European sites screened into the Applicant’s assessment
(Figures 1 to 5 reproduced from [APP-043])**



				1:35,000 Scale @ A3				East Anglia TWO Designated Sites Screened into the Assessment for Onshore Ornithology		Drg No	EA2-DEV-DRG-IBR-001049	
				Prepared:	FC					Rev	1	Coordinate System: BNG Datum: OSGB36
1	12/09/2019	FC	First Issue.	Checked:	RJ	Source: © Crown copyright and database rights 2019, Ordnance Survey 0100031673. This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Onshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.					Date	12/09/19
Rev	Date	By	Comment	Approved:	AH						Figure	1



Legend

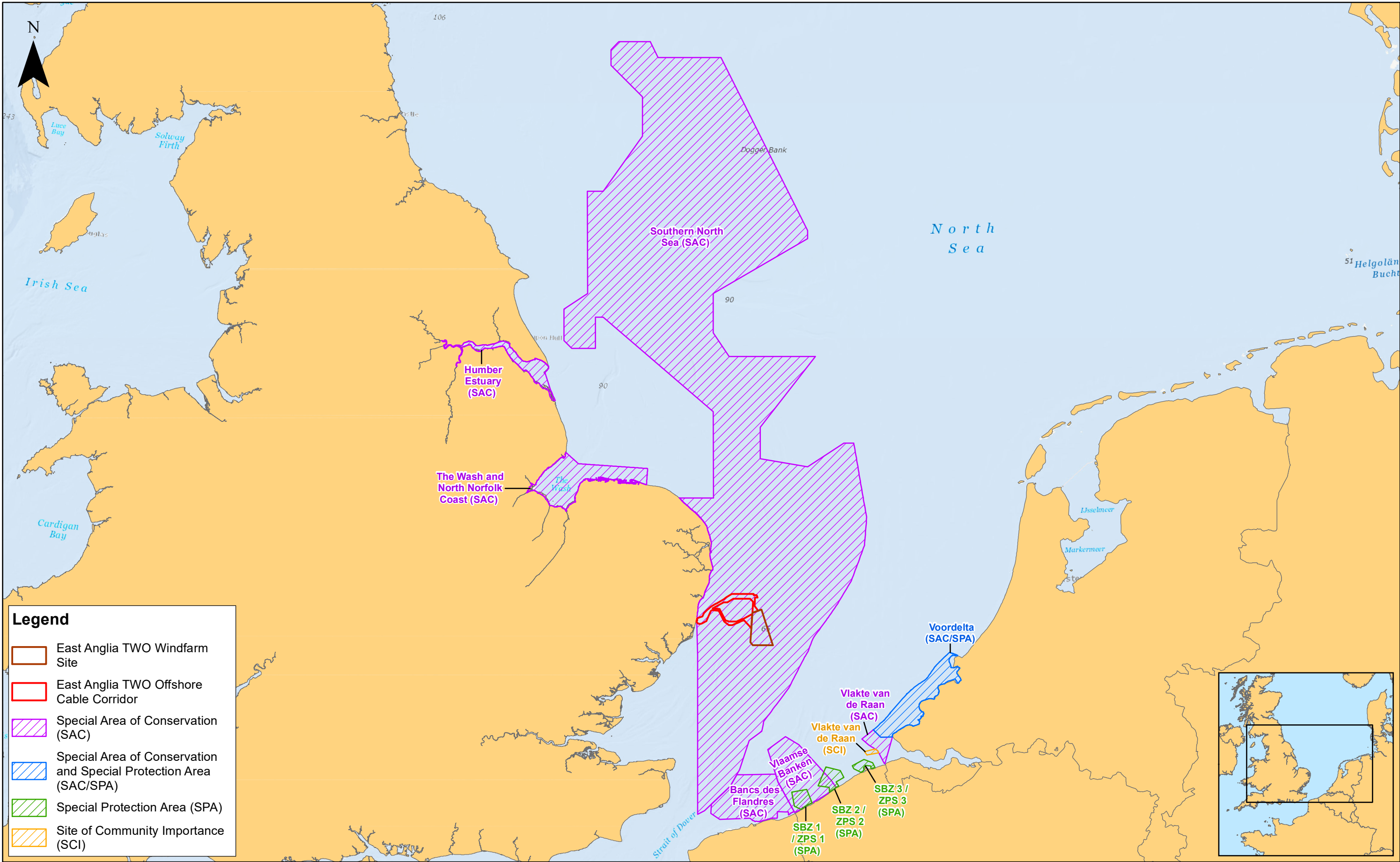
- East Anglia TWO Windfarm Site
- East Anglia TWO Offshore Cable Corridor
- Special Protection Area (SPA)**
 - Alde-Ore Estuary (SPA)
 - Flamborough and Filey Coast (SPA)
 - Greater Wash (SPA)
 - Outer Thames Estuary (SPA)



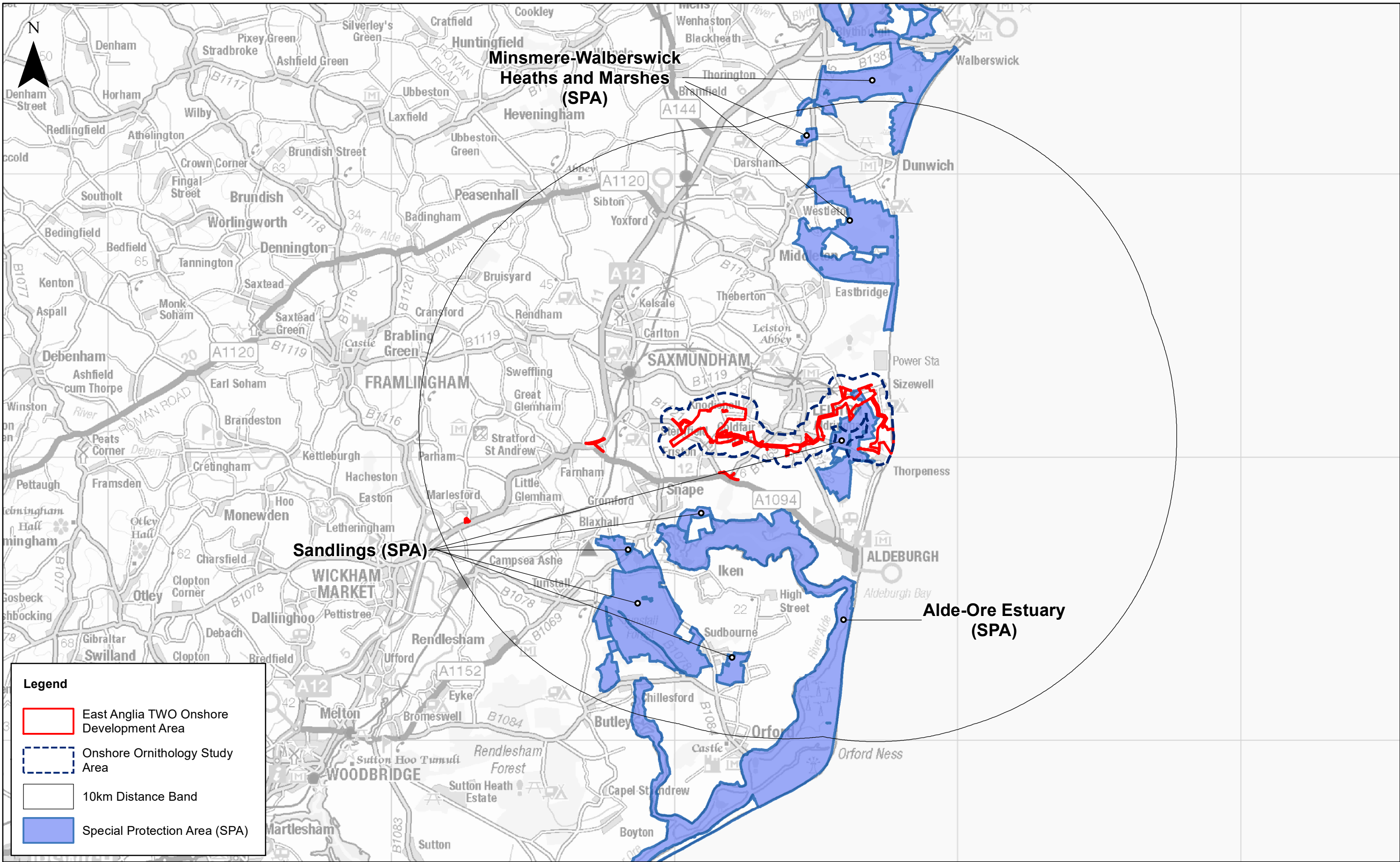
1	12/09/2019	FC	First Issue.	Checked:	PM
Rev	Date	By	Comment	Approved:	PP

1:1,500,000	Scale @ A3
0 12.5 25 50	Km
Source: © JNCC, 2019. © The Crown Estate, 2019. Contains OS data © Crown copyright and database right, 2019. © British Crown and OceanWise, 2019. All rights reserved. License No. EM05-EX001-548160. Not to be used for navigation.	
This map has been produced to the latest known information at the time of issue, and has been screened for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map.	
To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise) in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.	

East Anglia TWO		Drg No	EA2-DEV-DRG-IBR-001051
Designated Sites Screened into the Assessment for Offshore Ornithology		Rev	1
		Date	12/09/19
		Figure	2
		Datum: WGS 1984 Projection: Zone 31N	



 SCOTTISHPOWER RENEWABLES							1:2,250,000	 0 25 50 100 Km	East Anglia TWO Designated Sites Screened into the Assessment for Marine Mammals	Drg No	EA2-DEV-DRG-IBR-001053	
					Prepared:	FC	Rev			1	Datum: WGS 1984 Projection: Zone 31N	
	1	12/09/2019	FC	First Issue.	Checked:	PM	Date			12/09/19		
	Rev	Date	By	Comment	Approved:	PP	Figure			3		
							Source: © JNCC, 2019. © The Crown Estate, 2019. Contains OS data © Crown copyright and database right, 2019. Service Layer Credits: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org and other contributors. This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.					



06	30/08/2019	KMS	Sixth Issue
05	22/08/2019	KMS	Fifth Issue
04	09/07/2019	LNF	Fourth Issue
Rev	Date	By	Comment

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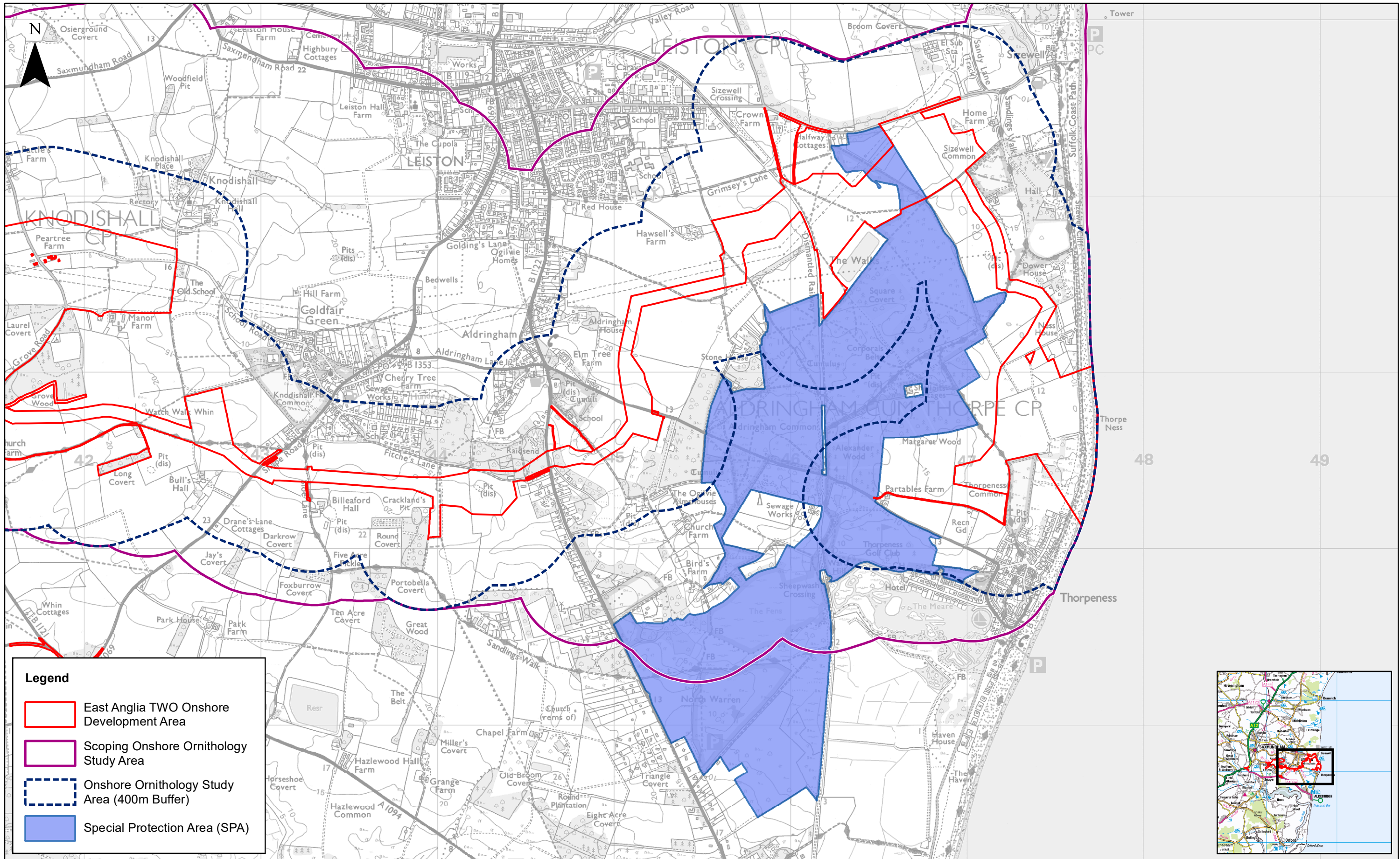
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East Anglia TWO

Onshore Ornithological Designated Sites within 10km

Drg No	O-EA2-HRA-Fig1-S1SR	
Rev	06	Coordinate System: BNG Datum: OSGB36
Date	30/08/19	
Figure	4	



	07	30/08/2019	KMS	Eighth Issue	Checked:	LNF	1:20,000		East Anglia TWO Sandlings SPA & Onshore Ornithology Study Area	Drg No		O-EA2-HRA-Fig2-S1SR	
	06	22/08/2019	KMS	Seventh Issue	Checked:	LNF	Scale @ A3			Rev	07	Coordinate System: BNG Datum: OSGB36	
	05	09/07/2019	BJF	Sixth Issue	Checked:	LNF				Date	30/08/19		
	Rev	Date	By	Comment	Approved:	RD				Figure	5		
	Source: © Crown copyright and database rights 2019. Ordnance Survey 0100031673. Contains public sector information licensed under the Open Government Licence v3.0 This map has been produced to the latest known information at the time of issue, and has been produced for your information only. Please consult with the SPR Offshore GIS team to ensure the content is still current before using the information contained on this map. To the fullest extent permitted by law, we accept no responsibility or liability (whether in contract, tort (including negligence) or otherwise in respect of any errors or omissions in the information contained in the map and shall not be liable for any loss, damage or expense caused by such errors or omissions.												

Summary of HRA Matters Considered During the Examination

- 24.1.19. As noted above, the Applicant's report concluded that AEOI could be excluded for all the sites and features it assessed (both project-alone and in-combination with other plans and projects). However, NE and other IPs, including the Royal Society for the Protection of Birds (RSPB) and The Wildlife Trusts (TWT), disputed these conclusions. The sites and features where the Applicant's conclusions regarding AEOI were disputed are listed in Table 24.1. The Examination therefore centred primarily on these points of disagreement and the reasons for them.

Table 24.1: Sites and Features for which Applicant's conclusions on AEOI were disputed during the Examination

Name of European Site	Features
Alde-Ore Estuary Special Protection Area (SPA) and Ramsar	Lesser black-backed gull (breeding)
Flamborough and Filey Coast SPA	Gannet (breeding)
	Kittiwake (breeding)
	Razorbill (breeding)
	Guillemot (breeding)
	Seabird assemblage
Outer Thames Estuary SPA	Red-throated diver (non-breeding)
Southern North Sea Special Area of Conservation (SAC)	Harbour porpoise
Sandlings SPA	Nightjar (breeding)
	Woodlark (breeding)

- 24.1.20. The main matters pertaining to AEOI conclusions discussed during the Examination were:
- Assessment of displacement impacts (particularly in relation to red-throated diver (RTD) (Outer Thames Estuary (OTE) SPA) and the auk species (guillemot and razorbill) which are features of the Flamborough and Filey Coast (FFC) SPA);
 - Collision Risk Modelling (CRM) (particularly in relation to the gannet and kittiwake features of the FFC SPA and the lesser black-backed gull (LBBG) feature of Alde-Ore Estuary SPA and Ramsar) - choice of Band model and evidence supporting the Applicant's parameterisation of the model;
 - The approach to in-combination assessment for effects on seabird features;

- Further design amendments, such as raising wind turbine generator air-draught²⁹ height, as mitigation to address adverse effects on seabird features from collision;
- Avoidance and reduction of displacement effects on the RTD qualifying feature of the OTE SPA;
- In-combination effects from underwater noise during construction on the harbour porpoise population of the Southern North Sea SAC and the form and securing mechanism of proposed mitigation measures; and
- Construction methods and mitigation measures in relation to the crossing of the Sandlings SPA by the onshore cable route.

24.1.21. Other significant matters which have been subject to Examination were:

- The alternative solutions explored by the Applicant to deliver the aims of the Proposed Development; and
- The feasibility, delivery, and details of compensation measures required to address AEOI if not excluded.

24.1.22. The scope of the screening assessment was discussed, and clarification of discrepancies in the reporting of the screening exercise and the screening matrices submitted by the Applicant was sought by the ExA early in the Examination. However, the conclusions of the screening assessment for likely significant effects were not disputed by any IPs.

24.2. FINDINGS IN RELATION TO LSE ON THE UK NATIONAL SITE NETWORK AND EUROPEAN SITES

24.2.1. Under Regulation 63 of the Habitats Regulations and Regulation 28 of the Offshore Habitats Regulations, the competent authority must consider whether a development will have LSE on a European site, either alone or in-combination with other plans or projects. The purpose of this test is to identify any LSEs on European sites that may result from the project and to identify the need for an appropriate assessment and the activities, sites, plans and projects to be included for further consideration in the appropriate assessment.

24.2.2. The Applicant's HRA Report sets out the methodology for determining LSE including the approach to identifying sites/ features with potential to be affected by the Proposed Development in Section 2 (HRA Methodology [APP-044]).

24.2.3. A total of 185 European sites were identified and included in the screening stage [APP-045]. An additional eight sites for grey seal and an additional site for harbour seal were included in the screening assessment following consultation that determined that all designated sites within 100 kilometres (km) (based on the typical foraging range of grey seal and 80km average foraging range for harbour seal) should be

²⁹ IPs have used the terms 'air-draft' and 'air-draught' interchangeably during the Examination and they have the same meaning. For consistency, the ExA uses 'air-draught' in this Report.

included into the screening assessment [APP-043]. Additional SPA and Ramsar sites designated for overwintering wildfowl and waders were also included within the assessment post-screening, on the basis that some of the designated species undertake seasonal migrations that may cross the EA2 wind farm array putting them at risk of collision (as stated in Paragraph 14 and listed in Table 2.2 of the HRA Report [APP-043]). Details of these sites are set out in the RIES [PD-051].

- 24.2.4. The potential for likely significant effects was only considered further where a potential pathway for effects could be identified for individual site features. As the detailed design of the Proposed Development has yet to be finalised, the zone of influence associated with the development was defined by the Applicant based on design parameters which are stated in the Applicant's assessments to represent the maximum adverse scenario for each parameter. During the Examination, changes to some of these parameters have been adopted with the intention of mitigating adverse effects. These changes are addressed where relevant in the following sections.
- 24.2.5. Decommissioning impacts were assumed to be similar to those predicted for construction. Sites which could be affected by the Proposed Development were initially identified using the criteria described in [APP-044]. The Applicant identified pathways for potential in-combination effects following the approach outlined in Section 2.1.6 of [APP-044]. The Applicant's HRA Report stated that the in-combination assessment applied the six-tiered approach as devised by NE (Joint Nature Conservation Committee (JNCC) and Natural England, 2013). The Applicant reported that NE commented on this approach advising simplification as reported in [APP-047], but that the approach was not modified. No further comments were made on this point.
- 24.2.6. In ExQ1 (1.2.2 of [PD-018]), the ExA highlighted discrepancies between the Applicant's reporting of the screening assessment [APP-044] and the HRA Screening Matrices [APP-045] and requested either justification for their omission or an updated screening assessment to include them. The Applicant subsequently submitted updated information to support the Screening Matrices [REP1-018]. ExQ1 question 1.2.5 [PD-018] noted that Ramsar sites and SPAs had been combined in the HRA Screening Report [APP-044] and requested the Applicant explain this approach and confirm whether this had been agreed with NE. In its response [REP1-159] NE confirmed that the draft Statement of Common Ground (SoCG) [REP1-058, REP8-110] between the Applicant and NE stated that this approach had been agreed.
- 24.2.7. Sites outside of the UK's National Site Network were considered in the Applicant's screening exercise, however, the Applicant did not identify any potential impacts on European sites in other European Economic Area (EEA) States [APP-044]. Only European sites which form part of the UK National Network are therefore addressed in this report. A Relevant Representation (RR) was received from Rijkswaterstaat [RR-066] which raised several ornithological matters. These were subsequently agreed upon confirming no anticipated effect on European sites in the

Netherlands [REP8-107]. Chapters 3.9, 18 and 27 of this report provide more information on transboundary effects.

- 24.2.8. The outcomes of the Applicant's screening assessment and the matters discussed in this section were set out in the RIES [PD-033, updated at PD-051]. The Applicant provided comments on the RIES at D8 [REP8-094] as did NE [REP8-167]. NE also provided comments on the RIES at D12 [REP12-093]. No other IPs made any comments in response to the RIES.

LSE from the Proposed Development Alone

- 24.2.9. The Applicant identifies potential impacts of the Proposed Development in 5.3.1 Habitats Regulations Assessment - Appendix 1 - Information to Support AA Report - HRA Screening Report' [APP-044]. The impacts which are considered to have the potential to result in significant effects depend on the zone of influence applied with respect to the nature of the site and features being assessed.
- 24.2.10. The Applicant described how it determined what constitutes a 'significant effect' for each of the habitats and species assessed within Appendix 1 to its HRA Report [APP-044]. NE [REP2-057] highlighted concerns regarding some of the identified qualifying features and reasoning within the Applicant's screening matrices, prompting submission by the Applicant of updated information at D3 [REP3-016].

LSE from the Project In-Combination

- 24.2.11. The Applicant addressed potential in-combination effects within [APP-044] which sets out the methodology applied. The other plans and projects, specifically other consented and operational wind farms, included in the in-combination assessment of effects on offshore ornithology features was a matter of disagreement during the Examination, after being initially raised by NE [RR-059]. NE's concerns centred around what it considered to be an underestimation of the effects on offshore ornithology, and the implications of this for the assessment of AEOI. These matters are discussed further in Section 24.4 of this Chapter.
- 24.2.12. In many cases, where the Applicant's screening exercise established the potential for LSE to arise from the Proposed Development alone, the potential for in-combination effects was also considered and discussed in the Applicant's HRA Report [APP-045]. The approach to in-combination assessment as far as it has bearing on the screening for LSE was not disputed. The ExA is satisfied with the approach to the assessment of in-combination LSE.

LSE Assessment Outcomes

- 24.2.13. The sites for which the Applicant's reports concluded that LSE could not be excluded from either the project alone or in-combination with other projects and plans are presented in Table 9.1 of [APP-044] and in [APP-

045]. Table 24.2 (below) presents the outcomes of the LSE evidence gathered through the course of the Examination.

Table 24.2 – European sites and qualifying features for which LSE could not be excluded

European Site(s)	Qualifying feature(s)	LSE Alone	LSE in-combination
Humber Estuary SAC	Grey seal	Disturbance due to underwater noise (all project phases: construction, operation, decommissioning)	Applicant screened in LSE from project alone, but also included in-combination LSE in the screening matrices [APP-045].
The Wash and North Norfolk Coast SAC	Grey seal Harbour seal	Vessel interactions and disturbance at haul out sites (all project phases) Indirect effects on prey (all project phases) Changes to water quality (construction and decommissioning)	
Southern North Sea SAC	Harbour porpoise		
Breydon Water SPA and Ramsar Broadland SPA and Ramsar North Norfolk Coast SPA and Ramsar	Winter and passage waterbird assemblage (including as named features provided in [APP-044].	Collision mortality (operation)	
Greater Wash SPA	Non-breeding red-throated diver	Displacement/disturbance (construction and operation)	
	Non-breeding little gull	Collision mortality (operation)	
Alde-Ore Estuary SPA and Ramsar	Breeding lesser black-backed gull	Collision mortality (operation)	

European Site(s)	Qualifying feature(s)	LSE Alone	LSE in-combination
	Seabird assemblage (Ramsar only) (herring gull)*		
Flamborough and Filey Coast SPA	Breeding kittiwake	Collision mortality (operation)	Collision mortality and displacement acting in-combination (operation) Applicant screened in LSE from project alone, but also included in-combination LSE in the screening matrices [APP-045]. * Seabird assemblage stated by Applicant as included in [APP-045] in error [REP3-070].
	Breeding gannet	Collision mortality (operation) Displacement/disturbance (operation)	
	Breeding common guillemot	Displacement/disturbance (operation)	
	Breeding razorbill		
	Seabird assemblage (breeding puffin)		
Outer Thames Estuary SPA	Red-throated diver	Collision mortality (operation) Barrier effect (all project phases) Displacement/disturbance (all project phases)	
Sandlings SPA	Breeding nightjar Breeding woodlark	Habitat loss (all project phases) Displacement/disturbance (all project phases)	
Vlaamse Banken SAC Voordelta SAC and SPA SBZ 1 / ZPS 1 SPA	Grey seal Harbour seal (Voordelta SAC)	Disturbance due to underwater noise (all project phases)	

European Site(s)	Qualifying feature(s)	LSE Alone	LSE in-combination
SBZ 2 / ZPS 2 SPA SBZ 3 / ZPS 3 SPA Vlake van de Raan SCI/SAC Bancs des Flandres SAC			

- 24.2.14. The Applicant's conclusion of likely significant effects on those European sites and their qualifying features identified in [APP-044] and in Table 24.2 were not disputed by any IPs during the Examination. NE confirmed agreement with the scope and conclusions of the HRA Screening assessment (response to ExQ1 1.2.6, [REP1-159]). No concerns were raised by NE in its relevant representation [RR-059] regarding the sites and features for which no LSE was concluded, however, NE did provide comments on the updated screening exercise [REP1-018] at Deadline 2 (D2) [REP2-057] to which the Applicant responded [REP3-070] with a further update to the screening exercise [REP3-016]. No other party raised concerns about the screening assessment.
- 24.2.15. Comments from NE in [REP2-057] included observation on the screening assessment's approach in [REP1-018] of combining the Alde-Ore Estuary SPA and Ramsar designations, noting that the seabird assemblage is a feature of the Ramsar only. The ExA explored this matter in ExQ1.2.5 of [PD-018]. The Applicant further explained its approach in its response to the ExA [REP1-107] and in response to NE that the update to the screening in [REP3-016] removed the reference to the seabird assemblage feature of Alde-Ore Estuary Ramsar as this was included in error [REP3-070]. However, the updated document continued to present this feature as 'screened-in' for LSE. NE did not provide further comment but referred to the relevant SoCG in its response [REP1-159] which stated agreement with the screening exercise [REP1-058].
- 24.2.16. The final SoCG between the Applicant and NE [REP8-110] explicitly stated that Alde-Ore Estuary SPA should be screened in for LSE and further assessed with respect to LBBG but did not include the Ramsar designation. From the information presented by the Applicant and responses provided by NE, the ExA is satisfied that the features of concern are the same for the SPA and Ramsar and that both designations have been adequately considered for potential LSE.
- 24.2.17. The Applicant's Screening Report [APP-045] did not consider direct habitat effects on the OTE SPA. In [REP1-158], NE raised concerns around the screening out of sand wave levelling during cable-laying and the potential for LSE on the SPA in relation to effects on supporting habitats. However, subsequently NE's Risk and Issues Log [REP8-168] confirmed agreement that no AEOI would occur from this impact pathway following submission of information by the Applicant at D3 [REP3-059] (see Table 24.3).
- 24.2.18. On this basis, the ExA considers that the Proposed Development is likely to have a significant effect from the impact pathways identified above in Table 24.2 on the qualifying features of the European sites when considered alone, or in-combination with other plans or projects.

24.3. CONSERVATION OBJECTIVES FOR SITES AND FEATURES

24.3.1. The conservation objectives for the sites and features identified in Table 24.2 (above) are set out in the Applicant's HRA Report [APP-043]. Conservation objectives were not provided for the following sites:

- Breydon Water SPA;
- Broadland SPA; and
- North Norfolk Coast SPA.

24.3.2. In response to ExQ1 1.2.7 [PD-018], the Applicant submitted these conservation objectives and an explanation of how they were considered in its assessment at D1 [REP1-107]. As noted above, in relation to the assessment of LSE, concurrent Ramsar sites and SPAs have been combined in the Applicant's HRA Information to Support Appropriate Assessment Report [APP-043], and this approach has been agreed with NE [REP1-058].

24.3.3. NE advised that it was unable to conclude no AEOI on the OTE SPA and its qualifying feature, RTD, on the grounds that the Proposed Development would undermine the conservation objectives of the SPA. This matter was discussed during the Examination and at Deadline 4 (D4), NE submitted its 'Legal Submission on RTD Displacement within OTE SPA' [REP4-089] to which the Applicant responded in [REP6-020]. Further detail is provided in Section 24.4 of this Chapter.

24.4. FINDINGS IN RELATION TO ADVERSE EFFECTS ON INTEGRITY (AEOI)

24.4.1. The European sites and qualifying features identified in Table 24.2 (and all qualifying features) were further assessed by the Applicant to determine if they could be subject to AEOI from the Proposed Development, either alone or in-combination. The assessment of AEOI was made in light of the conservation objectives for the European sites [APP-043].

24.4.2. This section discusses the conclusions with respect to AEOI for each site.

24.4.3. During the Examination, it became apparent that not all impact-effect pathways identified by the LSE assessment were fully considered. The Applicant's Screening Report [APP-045] did not assess direct impacts on supporting habitat applicable to the OTE SPA. NE identified LSE on the supporting habitats of OTE SPA from sand wave levelling during cable-laying [REP1-158], which the Applicant subsequently assessed in [REP3-059] concluding AEOI could be excluded. This conclusion was agreed with NE [REP8-168] (see Table 24.3). While the Applicant identified LSE from habitat loss on Sandlings SPA, it did not assess indirect effects from impacts to water quality resulting from the crossing of the Hundred River during construction or from emissions to air on supporting habitats. These matters were raised by NE [REP4-092] and East Suffolk Council (ESC) [EV-101]. Subsequently, the Applicant submitted an assessment at

[REP8-084] (Outline Watercourse Crossing Method Statement) and [REP6-025] (Onshore Ecology Clarification Note) concluding that AEOI could be excluded from both impact-effect pathways. This conclusion was agreed with NE [REP8-108 and REP8-162].

- 24.4.4. The Applicant's HRA Report [APP-043] provided details of the mitigation measures taken into account in the assessment of AEOI. These measures are discussed in the relevant sections of this Report for the sites and qualifying features to which they relate.

Sites for which AEOI can be excluded

- 24.4.5. The Applicant's reports concluded [APP-043, APP-046] that the Proposed Development will not result in AEOI of the following European sites (and UK National Site Network sites, shown in italics) that were carried through to the assessment:

- Greater Wash SPA;
- Breydon Water SPA and Ramsar;
- Broadland SPA and Ramsar;
- North Norfolk Coast SPA and Ramsar;
- The Wash and North Norfolk Coast SAC;
- Humber Estuary SAC;
- Vlaamse Banken SAC;
- Voordelta SAC and SPA;
- SBZ 1 / ZPS 1 SPA;
- SBZ 2 / ZPS 2 SPA;
- SBZ 3 / ZPS 3 SPA;
- Vlake van de Raan SCI;
- Vlake van de Raan SAC; and
- Bancs des Flandres SAC.

- 24.4.6. Neither NE, nor other IPs, raised any concerns in relation to the Applicant's conclusions for these sites and features [REP3-117, REP1-058]. In response to a request for further information made by the ExA on 17 March 2021 [PD-034], NE confirmed that it agreed to exclude AEOI on the UK National Site Network sites listed above. In its response, NE stated that it was unable to provide comment on sites that are not UK National Site Network sites [REP8-166]. The ExA is satisfied that AEOI on all these sites and their qualifying features can be excluded.

- 24.4.7. The Applicant also concluded no AEOI for the following sites and qualifying features:

- Alde-Ore Estuary SPA and Ramsar;
- FFC SPA;
- OTE SPA;
- Southern North Sea SAC; and
- Sandlings SPA.

- 24.4.8. Several of the Applicant's conclusions of no AEOI on these European sites in relation to particular qualifying features were disputed by IPs and remained in discussion throughout the Examination. The account of the

Examination of these matters is set out in the following sections. The matters of AEOI subsequently agreed for these sites are included in Table 24.3. Some European sites have been grouped together in this table where the qualifying features and assessment applied are essentially identical in the interests of clear and concise reporting.

Table 24.3: LSE to European sites and qualifying features for which AEOI from the Proposed Development (alone or in combination) can be excluded.

European Site(s)	Qualifying feature(s)	LSE identified from:	AEOI assessment
Humber Estuary SAC	Grey seal	- Disturbance due to underwater noise (all project phases: construction, operation, decommissioning) - Vessel interactions and disturbance at haul out sites (all project phases) - Indirect effects on prey (all project phases) - Changes to water quality (construction and decommissioning)	AEOI from all LSE excluded [APP-043, Page 47 APP-046]. Agreed by NE [REP8-109] and [REP8-166]
The Wash and North Norfolk Coast SAC	Grey seal Harbour seal	- Disturbance due to underwater noise (all project phases: construction, operation, decommissioning) - Vessel interactions and disturbance at haul out sites (all project phases) - Indirect effects on prey (all project phases) - Changes to water quality (construction and decommissioning)	AEOI from all LSE excluded [APP-043, Page 42 APP-046]. Agreed by NE [REP8-109] and [REP8-166].
Vlaamse Banken SAC Voordelta SAC (and SPA) SBZ 1 / ZPS 1 SPA SBZ 2 / ZPS 2 SPA	Grey seal Harbour seal (Voordelta SAC)	Disturbance due to underwater noise (all project phases)	AEOI from all LSE excluded [APP-043, Page 53 to 60 APP-046]. No dispute on assessment with NE [REP8-109],

European Site(s)	Qualifying feature(s)	LSE identified from:	AEOI assessment
SBZ 3 / ZPS 3 SPA Vlakte van de Raan SCI/SAC Bancs des Flandres SAC			however NE stated it is unable to comment on non-UK sites [REP8-166].
Breydon Water SPA and Ramsar Broadland SPA and Ramsar North Norfolk Coast SPA and Ramsar	Winter and passage waterbird assemblage	Collision mortality (operation)	AEOI from all LSE excluded, for the assemblage species concerned for each site [APP-043, Page 18 to 23 APP-046]. Agreed by NE [REP8-108] and [REP8-166].
Greater Wash SPA	Non-breeding red-throated diver	Displacement/disturbance (construction and operation)	Agreed by NE [REP8-110] and [REP8-166]. AEOI from all LSE excluded [APP-043 Page 13 APP-046]. Agreed by NE [REP8-110] and [REP8-166].
	Non-breeding little gull	Collision mortality (operation)	
Alde-Ore Estuary SPA and Ramsar	Seabird assemblage (herring gull)	Collision mortality (operation)	AEOI from all LSE excluded [APP-043, Page 17 APP-046]. Agreed by NE [REP8-110].

European Site(s)	Qualifying feature(s)	LSE identified from:	AEOI assessment
Flamborough and Filey Coast SPA	Seabird assemblage (breeding puffin)	Displacement/disturbance (operation)	AEOI excluded [Page 2-3 APP-043]. Puffin are not included in the Applicant's integrity matrices [APP-046]. Not disputed by NE and RSPB [RR-059 and RR-067].
Outer Thames Estuary SPA	Red-throated diver	Direct impacts to supporting habitats (construction)	LSE identified by NE in [REP1-158] and subsequently assessed by the Applicant in [REP3-059]. AEOI excluded, as agreed by NE in [REP8-168].
Southern North Sea SAC	Harbour porpoise	- Disturbance due to underwater noise (all project phases: construction, - Vessel interactions and disturbance at haul out sites (all project phases) - Indirect effects on prey (all project phases) - Changes to water quality (construction and decommissioning)	AEOI from these LSE were excluded [APP-043], Page 36 of APP-046]. Agreed by NE [REP12-094] with exception of in-combination underwater noise during construction (see later in this Section for detailed discussion).
The Sandlings SPA	Breeding nightjar Breeding woodlark	Indirect effects to supporting habitats (construction)	LSE from indirect effects to supporting habitats during construction

European Site(s)	Qualifying feature(s)	LSE identified from:	AEOI assessment
		▪ Habitat loss (all project phases) ▪ Displacement/disturbance (all project phases)	identified by NE in [REP4-092] and ESC in [EV-101] and subsequently assessed by the Applicant in [REP8-084] and [REP6-025]. AEOI excluded, as agreed by NE in [REP8-108]. AEOI excluded from other LSE following discussion during examination on crossing methodology and mitigation measures, see later in this Section for detailed discussion. Agreed by NE in [REP8-108].

Collision Risk Modelling

- 24.4.9. Collision mortality was an impact-effect pathway assessed by the Applicant for qualifying features of the Alde-Ore Estuary SPA and Ramsar (breeding LBBG), and the FFC SPA (breeding kittiwake and gannet). Collision risk modelling (CRM) input parameters were provided by the Applicant in Technical Appendix 12.2 Annex 3 of ES Chapter 12 Offshore Ornithology [APP-470] and complete CRM results for each ornithological feature assessed were provided in Technical Appendix 12.2 Annexes 4 and 7 [APP-060].
- 24.4.10. The Applicant's methodology for the assessment of collision risk using Option 2 of the Band (2012) CRM and modelling assumptions applied was a matter of discussion prior to commencement and during the Examination. The use of the CRM Option 2 was stated by the Applicant as being agreed in consultation with NE and the RSPB through the Evidence Plan Process (Appendix 12.1 of Chapter 12 Offshore Ornithology [APP-060]). Nevertheless, NE expressed preference for the use of CRM Option 1 version of the Band model as a more precautionary method capable of ensuring the worst-case scenario collision mortalities could be applied to the HRA assessment [RR-059]. The ExA requested an early response to Relevant Representations [PD-011], following which the Applicant confirmed that the use of CRM Option 2 had been agreed with NE and the RSPB due to acceptance that no sufficiently robust site-specific estimates of seabird flight height could be established for use in the CRM Option 1 Band model [Appendix 12.1 APP-060] and [AS-036]. NE acknowledged that the use of CRM Option 2 which uses generic height data was agreed in consultation with the Applicant and the RSPB [REP1-171].
- 24.4.11. The Applicant submitted several updated in-combination collision risk estimates in relation to LBBG (Alde-Ore Estuary SPA and Ramsar) and kittiwake and gannet (FFC SPA) [REP1-047, REP4-042, REP8-035, REP11-027, REP12-066]. The updated assessments were made in response to matters raised during the Examination, discussed in further detail in the RIES [PD-051] and highlighted in this section where relevant to each European site. In brief, the updates were made to capture a revised apportioning methodology in relation to LBBG; changes to the data applied to the in-combination assessment related to other projects; and changes to the parameters of the Proposed Development (as discussed in Chapter 2 and Chapter 18 of this Report).

Mitigation – air-draught increases

- 24.4.12. In its initial representations to the Examination, NE expressed concern about the impacts of windfarms on North Sea seabird populations [RR-059]. As such, NE recommended that the Applicant consider raising the height of the turbine blades above sea level (known as 'air-draught') to mitigate the effects from the Proposed Development on the gannet and kittiwake features of the FFC SPA and the LBBG feature of the Alde-Ore Estuary SPA due to collision risk.
- 24.4.13. The Applicant confirmed at [REP1-047] that the minimum height would be increased by 2m, to 24m above Mean High Water Springs, and that

this change would be reflected in the revised draft DCO. Table 2 of [REP1-047] also demonstrated that this increase in the minimum height would reduce the numbers of birds at risk of collision. In [PD-020], the ExA agreed that the change, as set out in the Applicant's notice of intent to make changes [REP1-039], was non-material and would be examined.

- 24.4.14. NE [REP2-052] and RSPB [REP8-105] welcomed this increase but asked the Applicant to explore further increases to the minimum air-draught height in order to achieve a greater reduction in potential collision risk impacts.
- 24.4.15. The Applicant stated within its HRA Derogation case [REP3-053], its Offshore Commitments document [REP3-073] and in response to questioning at ISH1 ([EV-034b], minutes 53:00-56:00) that increasing the minimum air-draught height further would have implications on technical aspects of the Proposed Development and was constrained by the site conditions. At Deadline 6 (D6) [REP6-044] the Applicant's report concluded that further increases of up to 30m would be technically possible but would have a prohibitive commercial impact on the project. This was supplemented by the Applicant's response [REP6-061] to further questioning from the ExA (ExQ2.2.3 and 2.2.7 of [PD-030]) and further justification provided in Table 4.8 of the final HRA Derogations Case [REP12-059].
- 24.4.16. The Applicant did not seek to introduce further increases in air-draught height during the Examination. No specific comments from the RSPB on the Applicant's explanation of why further increases would not be achievable were received by the end of the Examination and the matter was categorised as "*Not agreed*" in the SoCG between the Applicant and the RSPB [REP8-105]. NE also did not comment further on this matter and its associated effect on collision risk in its later representations.
- 24.4.17. This matter is explored further under the 'Alternative Solutions' section of this Chapter and within Chapter 18 of this Report.
- 24.4.18. Mitigation for potential RTD displacement, in the form of an amendment to the offshore Order limits to provide a greater 'buffer' between the proposed turbine array and the boundary of the OTE SPA, was also requested by NE at [RR-059]. This was considered through the Examination and is covered in more detail later in this section.

Monitoring

- 24.4.19. Monitoring for all offshore ornithology and marine mammal qualifying features assessed in the HRA was included in the Applicant's Offshore In-Principle Monitoring Plan (IPMP) [APP-590], updated at [REP3-040, REP6-015, and REP8-027]. The In-Principle Site Integrity Plan (IPSIP) also committed the final SIP to include any monitoring required to assess the effectiveness of mitigation measures relating to the SNS SAC. The IPMP included construction noise monitoring in relation to marine mammals and pre-construction monitoring for RTD, as well as post-consent monitoring for all ornithological features. The IPMP was discussed during the Examination in relation to the predicted in-combination collision and

displacement effects on offshore ornithological qualifying features and the content of the IPMP. The ExA explored this matter through written questions at ExQ1 to the Applicant, NE, the MMO, and The Wildlife Trusts [PD-018] and at ISH 3. NE [REP9-069] and the MMO [REP9-060] confirmed that their comments on the IPMP [REP8-027] had been addressed at D9. The provision of a monitoring plan which accords with the certified IPMP [REP8-027] prior to commencement of licensed activities is secured by the conditions of the DMLs. The ExA is satisfied that an appropriate framework is in place to secure the necessary monitoring commitments for these qualifying features post-consent.

- 24.4.20. A diagram to illustrate the relationship between the offshore management plans and conditions within the DML was supplied in the Applicant's submission at D8 [REP8-016]. This is a document to be certified under Article 36 and Schedule 17 of the Applicant's dDCO [REP12-013].

Alde-Ore Estuary SPA and Ramsar

- 24.4.21. The Applicant's HRA Report provided an assessment which addressed the potential for AEOI resulting from:

- Collision mortality (operation) on LBBG.

- 24.4.22. A LSE was also identified for herring gull, part of the seabird assemblage qualifying feature. However, this was subsequently dismissed with reference to assessments and consultation with NE carried out at the Preliminary Environmental Information Report stage [APP-043]. LSE from the Proposed Development alone or in combination resulting from all other impact-effect pathways aside from collision mortality were excluded [APP-044, APP-045]. The relevant SoCG between the Applicant and NE stated agreement that LBBG was the only feature that should be subject to further assessment [REP1-058 and REP8-110].

Lesser black-backed gull collision mortality - Proposed Development alone

- 24.4.23. The Applicant's assessment considered AEOI from the Proposed Development alone, concluding that the predicted collision mortalities (Table 4.5 of [APP-043]) would increase the natural mortality rate by 0.04%, and therefore was below the 1% threshold advised by SNCBs as the point at which effects are detectable. Accordingly, this increase was considered unlikely to result in a significant effect and therefore AEOI was excluded. This assessment and conclusion were agreed with NE, a point reflected in the relevant SoCG [REP1-058, REP8-110].
- 24.4.24. The Applicant's HRA Report acknowledged the Ramsar designation as being identical to the SPA designation. The assessment is presented in the context of the SPA population and conservation objectives, which was confirmed as acceptable to NE [REP1-058]. The ExA is content that the predicted collision mortality will not undermine the conservation objectives for LBBG and that AEOI from the Proposed Development alone can be excluded for the Alde-Ore Estuary SPA and Ramsar.

Lesser black-backed gull collision mortality - Proposed Development in-combination

- 24.4.25. The Applicant's assessment considered AEOI from the Proposed Development in-combination with other windfarms determined to have the potential to contribute to mortality on the SPA population, set out in Paragraph 4.5.1.2.2 and listed in Table 4.7 of [APP-043]. The Applicant's report concluded no AEOI based on the predicted population effects of its modelled collision mortality.
- 24.4.26. The methodology applied by the Applicant in apportioning impacts on LBBG to the other wind farms assessed in the in-combination assessment was a matter for discussion in the Examination. NE provided advice that a range of potential breeding season apportioning should be used, consistent with rates provided during the Norfolk Vanguard and Norfolk Boreas Examinations [REP1-170]. The Applicant submitted a revised assessment at D1 addressing these points [REP1-047] to which NE provided further comment acknowledging some limitations with the Applicant's approach, but welcoming the changes made [REP2-052]. The ExA is satisfied with the apportioning rates applied in the in-combination assessment.
- 24.4.27. NE was unable to rule out AEOI on the LBBG feature of the Alde-Ore SPA for in-combination collision risk with the plans and projects taken into account (by the Applicant) [REP8-110] and which were a significant matter of discussion during the Examination. A key matter of discussion in relation to this qualifying feature was the inclusion or exclusion of in-combination collision totals from the Hornsea Project Three (H3) and Hornsea Project Four (H4) projects. At [REP7-071] NE stated that it was unable to rule out in-combination AEOI for LBBG as a result of collision. NE agreed with the approach reflected in [REP1-047] where due to the likely foraging ranges of LBBG and lack of connectivity between the Alde-Ore Estuary and H3 and H4, no collisions should be apportioned from these projects on SPA LBBGs [REP2-052, REP8-167]. NE's conclusion was therefore independent of the figures from these projects. In its final advice [REP13-048] NE re-stated that it was unable to rule out AEOI on this feature.
- 24.4.28. Having considered all of the submissions on this matter, the ExA considers that uncertainty remains as to the in-combination collision effects on the LBBG feature of the Alde-Ore Estuary SPA. As a result, the ExA takes the view that in-combination with other plans and projects, collision effects could undermine the conservation objectives for LBBG and that in-combination AEOI cannot be excluded for the Alde-Ore Estuary SPA and Ramsar.

Flamborough and Filey Coast (FFC) SPA

- 24.4.29. The Applicant's HRA Report [APP-043, APP-045] presented an assessment of AEOI in relation to the qualifying features where LSE were identified alone and/or in-combination from:

- Displacement (operation) in relation to gannet, razorbill, guillemot, and seabird assemblage (puffin only);
- Collision mortality (operation) in relation to gannet and kittiwake;
- Displacement and collision mortality acting in-combination in relation to gannet.

- 24.4.30. The Applicant concluded [APP-043] that there would be no AEOI on any of the qualifying features of the FFC SPA as a result of the Proposed Development either alone or in-combination with other plans or projects.
- 24.4.31. In [RR-059] NE did not agree with the Applicant's conclusions of no AEOI on the qualifying features in-combination with other plans and projects, a position supported by the RSPB [RR-067] and which was held throughout the Examination. In relation to the seabird assemblage, NE did not express particular concerns however, the RSPB did specifically disagree that AEOI could be excluded [REP8-105]. The RSPB's concerns related to in-combination effects on the four species assessed separately as qualifying features in their own right (kittiwake, gannet, guillemot, and razorbill).
- 24.4.32. The methodology and scope of the in-combination assessment for FFC SPA was explored through the Examination. The matters that were discussed and the agreements reached with NE in relation to the CRM are covered earlier in this Chapter.
- 24.4.33. A focus for analysis and representations during the Examination was the scope of inclusion of other wind-farm projects within the in-combination assessment for the Proposed Development. Changes to the status of other projects, either through consenting delays, post-consent changes to their DCOs, or revisions to consenting decisions during the Examination, had implications for the Applicant's in-combination assessment and the positions adopted by NE and other IPs.

Seabird assemblage – collision mortality and displacement Proposed Development alone

- 24.4.34. The seabird assemblage qualifying feature of the FFC SPA, comprises kittiwake, gannet, guillemot, razorbill, fulmar, puffin, herring gull, shag and cormorant. LSE were identified for this qualifying feature in terms of displacement effects on puffin by the Applicant [APP-045] based on advice from NE but were not further assessed by the Applicant in [APP-043]. This was raised as a matter of concern by the RSPB [RR-067].
- 24.4.35. The Applicant confirmed in [REP2-006] that the first four of these species had been assessed separately as individual features, and provided the reasons as to why it considered that there were no pathways for effects for the remaining species included as part of the seabird assemblage feature (i.e. fulmar, puffin, herring gull, shag, and cormorant). These conclusions led to the exclusion of AEOI on the seabird assemblage feature.
- 24.4.36. Based on the evidence presented and the content of the representations submitted, the ExA is satisfied that it has been demonstrated that no

pathways for LSE exist for fulmar, puffin, herring gull, shag and cormorant, and therefore an assessment of AEOI on the FFC SPA from alone or in-combination effects on these species as part of the seabird assemblage qualifying feature is not required.

- 24.4.37. At [REP3-116], NE agreed that AEOI for the seabird assemblage feature of the FFC SPA could be ruled out for project alone effects as there was no adverse effect on the individual components of the seabird assemblage. The RSPB supported this position [REP8-105]. On the basis of the submitted evidence, the ExA is satisfied that AEOI can be excluded from the effects of the Proposed Development alone on the seabird assemblage qualifying feature.

**Seabird assemblage – collision mortality and displacement
Proposed Development in-combination**

- 24.4.38. Following agreement in relation to the absence of LSE from the Proposed Development on the other species comprising the seabird assemblage qualifying feature, the Examination concentrated on the species of kittiwake, gannet, guillemot and razorbill. The ExA considers that the evidence gathered during the Examination in respect of these species can be applied to them both as qualifying features in their own right as above, and to the seabird assemblage qualifying feature. This evidence is discussed in the sections below.

- 24.4.39. As detailed in the sections below, uncertainty remains around the extent of the in-combination effects due to the availability of ecological information associated with other plans and projects still at a pre-application stage. This means that the ExA is not satisfied that AEOI on the FFC SPA due to in-combination displacement effects on the seabird assemblage can be excluded.

Kittiwake and gannet– collision mortality; gannet, guillemot and razorbill -displacement Proposed Development alone

- 24.4.40. For project-alone effects on kittiwake, gannet, guillemot, and razorbill the AEOI conclusion relied on a comparison of the levels of expected mortality from the wind farm against natural background variations in these SPA populations. In all cases, the conclusions were that levels of mortality, either from collision or from displacement from the wind farm project alone, would be undetectable against the accepted baseline mortality for each affected species. The Applicant reported that following further discussion and a workshop on 28 July 2020 with the Applicant, NE agreed with these conclusions. This agreement is reflected in the SoCG between the Applicant and NE [REP8-110].

- 24.4.41. The ExA is satisfied that AEOI can be excluded on these qualifying features from the Proposed Development alone.

Kittiwake - collision mortality Proposed Development in - combination

- 24.4.42. The projects considered to have potential in-combination effects with the Proposed Development for kittiwake were listed in Table 4.16 of the

Applicant's assessment [APP-043] along with the data on predicted collisions for each of those projects. This data was updated and amended through the Examination following feedback from NE, and to take account of the 2m increase in air-draught height confirmed by the Applicant at D4 [REP4-042]. The Applicant's position at [APP-043] was that the mortality predictions were very low (less than 1% of the expected background variation) and as such, an AEOI could be ruled out for the kittiwake feature in-combination with other plans and projects. The figures were amended in the Applicant's submission at D8 [REP8-035]. In relation to H3, the Applicant also confirmed in [REP8-035] that the conclusions for kittiwake assumed that collisions at FFC SPA from that project were fully compensated for and therefore zero collisions at that site were attributed to H3.

- 24.4.43. The RSPB maintained a position through the later stages of the Examination on the proposed compensation measures for kittiwake on H3. The concern it expressed related to whether the compensatory measures proposed for that project should be considered to have avoided the adverse effects on kittiwake and therefore did not need to be considered in the in-combination effects assessment for the Proposed Development. The ExA explored this through its written questions and NE confirmed that it agreed with the Applicant; that the impacts from H3 would be fully compensated for [R17QB.12 and REP8-166]. The RSPB maintained its position, however, in its final submissions on this matter to the Examination at [REP11-127] on the basis that it believed that the measures proposed for H3 were highly uncertain to be successful.
- 24.4.44. The Applicant maintained its position that AEOI on FFC SPA could be excluded in relation to effects on the kittiwake feature of FFC SPA through to the end of the Examination. The Applicant's final figures for in-combination kittiwake collision mortality were presented in Table 2 of their D12 submission [REP12-066].
- 24.4.45. The Applicant's conclusions on in-combination effects for kittiwake, as with other features of the FFC SPA, were the subject of discussion and review throughout the Examination as a result of the changing position of the other plans and projects relevant to the assessment. The details of this analysis and discussion with NE are described in Paragraphs 4.2.100 to 4.2.125 of the ExA's updated RIES [PD-051]. NE's position throughout (and stated at [REP9-066]) noted that there was already an AEOI on the FFC SPA in relation to kittiwake across consented plans and projects, and so any additional mortality arising from the Proposed Development could only be concluded to be an additional adverse effect.
- 24.4.46. The Applicant further updated its figures following the High Court decision to quash consent for the Norfolk Vanguard Offshore Windfarm Order 2020 in February 2021 and changes to the status of other projects occurring through the Examination [REP11-027 and REP12-066]. This included an update from Ørsted on the figures for H3.
- 24.4.47. Two further projects were included in the figures by the Applicant at Deadline 11 [REP11-027], following the Dudgeon Extension Project (DEP)

and Sheringham Extension Project (SEP) publishing preliminary environmental information in April 2021. These projects were accounted for in the final in-combination totals presented by the Applicant at Deadline 12, which also included updated figures following confirmation with NE [REP11-121, REP12-090] of the position to take in relation to H3 and Norfolk Boreas. These final in-combination totals were presented by the Applicant at D12 [Table 2, REP12-066].

24.4.48. For kittiwake, the final in-combination totals provided by the Applicant predict an annual in-combination collision mortality of 532.9 birds, of which EA2 would contribute 0.8 birds annually.

24.4.49. In its final advice on the Applicant's position at D13 [REP13-048], NE agreed with the Applicant's Table 2 figures in [REP12-066], but its final position at the close of Examination was that it considered that as the Proposed Development would add further birds to the existing totals considered to already be causing an AEOI at FFC SPA, it could not rule out in-combination AEOI on the kittiwake feature of the FFC SPA including or excluding H4, DEP or SEP.

24.4.50. The ExA is of the view that the impacts of H3 on kittiwake can be removed from the in-combination assessment as these impacts will be subject to compensation under the stipulations of that project's consent. The ExA considers that the appropriateness and level of certainty around the H3 compensation measures has been tested in the consenting process and secured in its DCO, and that confidence can be had that the effects will subsequently not contribute to an overall adverse effect on the favourable conservation status of FFC SPA.

24.4.51. That aside, uncertainty remains in respect of the ecological implications of the remaining in-combination effects, and in light of this the ExA is not satisfied that AEOI on FFC SPA in-combination can be excluded in relation to kittiwake.

Gannet - collision mortality and collision mortality and displacement effects - Proposed Development in-combination

24.4.52. The projects considered to have potential cumulative effects in-combination with the Proposed Development for gannet were listed in Table 4.9 of the Applicant's assessment [APP-043] along with the data on predicted collisions for each of those projects. This list of projects was updated and amended during the examination [REP2-006] and confirmed in feedback from NE [REP3-116] and [REP7-071].

24.4.53. Following Statutory Nature Conservation Body (SNCB) guidance, NE advised in its response at D8 [REP8-159] that where species were at risk from collision and displacement that the impacts are considered to be additive, noting that there is a measure of caution applied to this approach. The discussions in this report around the impacts identified in Table 24.2 on the gannet feature are therefore dealt with together in this section.

- 24.4.54. The Applicant's initial conclusions [APP-043] in relation to combined collision and displacement mortality on gannet at FFC SPA was an increase of 1.9% against baseline population mortality. The Applicant considered this against the observed annual 10% increase in the gannet population at FFC SPA and concluded that there would be no AEOI to FFC SPA from collision risk to gannet in-combination with other plans and projects.
- 24.4.55. Further changes were made to the predicted collision mortality figures as the Examination progressed, to take account of the changing position of projects included in the assessment, such as the judgement of the High Court in February 2021 that the decision to grant the Norfolk Vanguard DCO should be quashed, and the delay to the final H4 submission. The Applicant's tables for the Proposed Development in [REP8-035] also used the collision mortality estimates from Deadline 8 of the Norfolk Boreas Examination as the common position for all projects, using the best available evidence previously agreed with NE through that Examination. Ørsted also supplied its awaited figures for H3. The Applicant continued to update these tables at Deadline 12 [REP12-066], and Deadline 13 [REP13-019] following comment from NE, with the Applicant providing further minor data amendments and to include DEP and SEP. These projects were accounted for in the final in-combination totals for gannet. Throughout the Examination, caution was applied to the use of data from certain projects that had not yet been submitted or approved, or where data were reliant on preliminary environmental information, such as H4.
- 24.4.56. Following the updated collision totals provided by the Applicant at Deadline 11 [REP11-027], which included the updates to H3, NE advised that it was able to agree in [REP12-090] to the Applicant's position of no AEOI on FFC SPA from impacts to the gannet feature of the FFC SPA through either collision mortality effects, or collision mortality and displacement effects in-combination with other projects, excluding H4, DEP and SEP. NE's analysis of the figures demonstrated that the baseline mortality with the Proposed Development in-combination with other plans and projects (but excluding H4, DEP and SEP) would be less than 1% of the baseline population mortality.
- 24.4.57. However, because of the uncertainty over the figures available for H4, DEP and SEP, as projects that have not yet been submitted or approved, NE concluded [REP12-090, section 2.2] that it could not rule out AEOI for the gannet feature when those projects were included in the in-combination totals. This remained NE's position at the end of the Examination.
- 24.4.58. Given the uncertainty which remains around the extent of the in-combination effects there remains a risk that adverse effects on gannet could result in an AEOI on the FFC SPA. The ExA is not satisfied that AEOI on FFC SPA in-combination can be excluded in relation to gannet.

Guillemot and Razorbill - displacement - Proposed Development in-combination

- 24.4.59. The projects considered to have potential effects in-combination with the Proposed Development for guillemot were listed in Table 4.21 of the Applicant's assessment [APP-043] along with the data on predicted collisions for each of those projects. Table 4.18 of [APP-043] listed the figures in relation to razorbill. These lists were updated and amended during the examination [REP2-006] and confirmed in feedback from NE [REP3-116].
- 24.4.60. The Applicant's initial conclusions [APP-043] in relation to guillemot were that as the project alone totals were extremely small (displacement occurring from the Proposed Development would result in a 0.1% increase against baseline population mortality, considered undetectable) that the contribution to the in-combination effect from the Proposed Development would also be extremely small (of the predicted 2.5% increase in mortality, 0.2% would be attributed to EA2).
- 24.4.61. For razorbill, the Applicant's initial conclusions were that as the project alone totals were extremely small (displacement occurring from EA2 would result in a 0.04% increase against baseline mortality, considered undetectable) that the contribution to the in-combination effect from EA2 would also be extremely small. Of the predicted cumulative 1.3% increase in mortality due to in-combination effects, 0.2% would be attributed to EA2.
- 24.4.62. NE's initial position for both guillemot and razorbill [RR-059] was that there was already an adverse effect occurring on both species, demonstrated through the Examination for the Norfolk Vanguard project. As such, an AEOI could not be ruled out as a result of the Proposed Development as it would add further numbers to the in-combination totals for both species.
- 24.4.63. The conclusions on in-combination effects for both guillemot and razorbill, as with other features of the FFC SPA, were the subject of discussion and review throughout the Examination because of changes in the position of the other plans and projects relevant to the assessment. The details of this analysis and discussion with NE are described in the RIES [PD-033] [PD-051].
- 24.4.64. At [REP8-166], NE addressed the ongoing uncertainty around the figures from H3 that should be considered in the collision risk modelling in response to ExA R17QB [PD-034]. NE noted that, until revised baseline data or a worst-case scenario was available from H3, in-combination assessments with regard to guillemot and razorbill could not be updated for any offshore windfarm currently in the planning system. NE therefore maintained its position concluding AEOI on these species as a result of the addition of the Proposed Development.
- 24.4.65. Ørsted provided updated collision mortality figures for H3 to the Applicant and these were included in the Applicant's amended in-combination totals for displacement effects on both guillemot and

razorbill at D12 and D13 [REP12-066 and REP13-019]. These took account of the changes to the list of consented projects, decisions surrounding Norfolk Vanguard, the addition of figures from Ørsted on H3 and the delay to the submission of H4. These changes are common to all the screened-in features of the FFC SPA.

- 24.4.66. NE's final comments at D13 [REP13-048] agreed with the Applicant's presented totals for both species from D12 and D13, resulting in its conclusions being altered. NE's final position for both the guillemot and razorbill features of the FFC SPA concluded no AEOI from displacement effects in-combination with other plans or projects, excluding H4, DEP or SEP. When H4, DEP and SEP were included, NE concluded however, that due to uncertainty about the effects of those future projects, it could not rule out AEOI in relation to either the guillemot or razorbill feature in-combination with other plans and projects.
- 24.4.67. The ExA is of the view that the uncertainty which remains around the extent of the in-combination effects means that AEOI on the FFC SPA due to in-combination displacement effects on guillemot and razorbill cannot be excluded.
- 24.4.68. While the Applicant maintained its position that there would be no AEOI on FFC SPA from in-combination effects to the qualifying features through to the close of the Examination, it also provided a derogations case and continued to explore compensatory measures for the kittiwake, gannet, guillemot and razorbill qualifying features of the FFC SPA on a without prejudice basis. The without prejudice derogations case and compensation measures are discussed further in Sections 24.5 to 24.8 of this Chapter.

Outer Thames Estuary (OTE) SPA

- 24.4.69. The Applicant's HRA Report [APP-043], [APP-045] presented an assessment which considered the potential for AEOI on the qualifying feature of the OTE SPA, non-breeding red-throated diver (RTD); both project-alone and in-combination with other plans or projects. The Applicant identified potential for LSE from:
- Collision mortality (operation)
 - Barrier effects (all project phases)
 - Disturbance and displacement from offshore cable laying activities (construction);
 - Displacement/disturbance from vessel traffic associated with site maintenance (operation); and
 - Displacement/disturbance from presence and operation of the turbines (construction and operation).
- 24.4.70. The Applicant's assessment concluded that there would be no AEOI on RTD either from the Proposed Development alone or in-combination with other plans or projects [APP-043] for all of the LSE assessed.

Red-throated diver - Barrier effects and collision mortality - Proposed Development alone or in-combination

- 24.4.71. NE did not express disagreement with the Applicant's conclusion that AEOI could be excluded in relation to barrier effects and collision mortality to RTD from the Proposed Development alone or in-combination with other plans or projects [APP-043 and APP-046], and this was not a matter of discussion during the Examination in representations from other IPs.
- 24.4.72. The ExA is satisfied that AEOI on OTE SPA could be excluded from both these impact-effect pathways.

Disturbance and displacement Examination matters

- 24.4.73. NE expressed concerns around the modelling undertaken by the Applicant and did not agree with the estimated numbers of individuals affected by disturbance/displacement predicted by the Applicant [REP1-172]. NE also advised that it did not agree with the Applicant's conclusions on the ecological implications of the anticipated disturbance/displacement in terms of the OTE SPA conservation objectives [REP4-089], [REP7-070]. NE's position that AEOI on the OTE SPA due to disturbance/displacement of RTD cannot be excluded was supported by the RSPB [REP8-105].
- 24.4.74. Key matters examined in relation to disturbance and displacement effects were:
- i. The magnitude and extent of RTD disturbance and displacement effects;
 - ii. Mitigation measures as included in the Best Practice Protocol (BPP);
 - iii. Increasing the 'buffer' distance to the OTE SPA as mitigation;
 - iv. The implications of the Proposed Development for the Conservation Objectives of the OTE SPA; and
 - v. The assessment of in-combination effects.

i. The magnitude and extent of RTD disturbance and displacement effects

- 24.4.75. NE advised concerns regarding the model validation and limitations of the Applicant's approach to RTD displacement modelling for the Proposed Development (further detail is presented in Section 4.2.12 of the updated RIES [PD-051]), advising the approach taken had led to an underestimate of the magnitude and extent of RTD displacement [REP4-087]. NE disputed the Applicant's conclusion that discernible RTD displacement will only extend up to 7km from the proposed array area [REP4-087]. The Applicant's assessment applied an assumption of 100% displacement at 4km distance from the wind farm area based on NE advice pre-application which the Applicant considered had enabled a realistic worst-case to be assessed.
- 24.4.76. Throughout the Examination, NE referred to a growing body of evidence that demonstrated the need for a buffer of 10km or greater (between the proposed array area and the OTE SPA) to avoid adverse effects on RTD

[REP6-116]. In its response to the London Array OWF Year 3 Ornithological Monitoring Report [REP11-122], NE stated that the monitoring evidence demonstrates that the original London Array appropriate assessment significantly underestimated the extent of RTD displacement and that RTD displacement may extend as far as 11.5km.

- 24.4.77. The Applicant provided updated assessments of RTD displacement in the OTE SPA at [REP3-049, REP5-025, REP6-019, REP8-033, REP11-026]. The Applicant reported that its analysis for the OTE SPA shows that RTD avoidance occurs over a much shorter range, with densities approaching background (ie unaffected) levels by 7km from offshore wind farms. On this basis, the Applicant considered that application of a larger buffer to ensure complete avoidance (eg up to 10km) was not supported by the current analysis and would result in over-estimating the potential displacement effects.
- 24.4.78. At [REP13-132] the Applicant confirmed that the submitted London Array Report (version 4) did not alter its position. The Applicant stated that it had, since D5, presented both NE's preferred approach (using 100% displacement in the wind farm, in increments to 0% at 12km based upon its interpretation of the London Array monitoring results) alongside the Applicant's model. The Applicant stated that its model was based on survey information which included coverage of London Array and it was therefore satisfied that it had presented the full range of evidence upon which a decision could be made.
- 24.4.79. The Applicant's revised assessment [REP5-025, REP8-033, REP6-019, REP11-026] included an in-combination assessment which considered the dates of windfarm construction, RTD survey data, and designation of the OTE SPA. An in-combination total of 1,433 individuals at risk of displacement (34 from EA1N and 6 from EA2) was predicted which, at 10% mortality, the Applicant calculated would result in an in-combination total of 143 individual mortalities; equating to 0.7% of the OTE SPA population. However, as discussed in [REP5-025], the Applicant maintained that a mortality rate of 1% was more realistic and precautionary for this species (with reference to Vattenfall 2019 for a discussion of evidence for RTD displacement mortality), which would result in less than 0.1% of the population at risk of in-combination displacement mortality.

ii. Mitigation measures as included in the Best Practice Protocol (BPP)

- 24.4.80. The Applicant submitted its 'Best Practice Protocol (BPP) for minimising disturbance to Red-Throated Diver' at [REP3-074] with updates at [REP7-046, and REP8-036]. The protocol and the extent to which it addressed the identified sources of potential RTD disturbance and displacement were matters discussed during the Examination.
- 24.4.81. NE considered that a worst-case scenario of 110 days of cable installation during the period that RTD are likely to be most sensitive (ie 1 November to 1 March inclusive) could contribute to in-combination AEOI on the OTE SPA (row NE-0018 in [REP8-110]) and recommended that a seasonal restriction in cable laying activity be put in place to be secured in the

BPP. At [REP13-051] NE again advised that the BPP did not address the impacts from cable installation and continued to advise a seasonal restriction to be put in place.

24.4.82. NE also provided comment in relation to displacement impacts resulting from increased operational vessel and helicopter activity through the OTE SPA and inclusion of mitigation in the BPP [RR-059], [REP4-087]. In response to the Applicant's updated BPP [REP8-036], NE confirmed that it was satisfied that the BPP provided appropriate best practice to mitigate disturbance from vessels and helicopters transiting the OTE SPA [REP9-063].

24.4.83. NE also advised that the BPP did not address the impacts from the presence of the turbines [REP8-110]. At [REP11-049], the Applicant provided clarification that potential displacement impacts from operational turbines were not intended to be included in the BPP and were not considered relevant to its scope. There were no further developments regarding the BPP during the Examination.

iii. Increasing the 'buffer' distance to the OTE SPA as mitigation

24.4.84. At [REP6-116] NE maintained its position that the buffer between the Proposed Development and the OTE SPA must be at least 10km in order to avoid AEOI in-combination with other plans or projects. At [REP6-030], the Applicant confirmed that no further increase to the buffer distance would be implemented for the Proposed Development due to technical and commercial constraints (discussed further under 'Consideration of Alternative Solutions' in this Report). The Applicant maintained this position at Deadline 11 [REP11-088] in response to ExQ3.2.7.

24.4.85. NE maintained its previously stated position that mitigation by way of increasing the distance between the Proposed Development and the OTE SPA should be implemented to avoid AEOI from RTD displacement from the presence of WTGs [REP11-123], [REP13-048].

24.4.86. Discussions in the later part of the Examination centred on the Applicant's proposed 'without prejudice' compensation measures.

iv. The implications of the Proposed Development for the Conservation Objectives of the OTE SPA

24.4.87. NE has advised throughout the Examination that it was unable to exclude AEOI (in-combination with other plans or projects) on the OTE SPA and its qualifying feature, RTD, on the grounds that the Proposed Development would undermine the conservation objectives of the OTE SPA.

24.4.88. The conservation objectives for the OTE SPA are set out at Paragraph 78 of the Applicant's 'Displacement of red throated divers in the OTE SPA' [REP3-049, updated by REP5-025]. In [REP4-089], NE stated that all the objectives are relevant and must be considered in an appropriate assessment. However, discussion during the Examination has centred

mainly on objectives (d) and (e), which relate to "(d) maintaining or restoring...the populations of each of the qualifying features [i.e. abundance] and (e) the distribution of qualifying features within the site [ie distribution]".

- 24.4.89. The Applicant also stated that the RTD population estimated in the OTE SPA has either increased (the population estimate has changed from approximately 6,000 in 2005, to 14,000 in 2014 and 21,000 in 2018) or at the very least not declined (if this three times increase is solely attributable to improved survey methods as NE has suggested). The Applicant therefore argued that it was reasonable to state that there was no effective impact on the diver population at present and the very small additional effect attributed to EA1N and EA2, would not materially change that situation.
- 24.4.90. The Applicant concluded that the Proposed Development would not undermine any of the conservation objectives of the OTE SPA. The Applicant was of the view that it had demonstrated that the population of RTD likely to be impacted by construction activities and the presence and operation of the turbines was small with a low number of RTD mortalities predicted to occur. As such, it considered that the potential mortality associated with the Proposed Development was likely to have an indiscernible effect at the population level. It is therefore the Applicant's view that the Proposed Development would not undermine conservation objective (d). Furthermore, the Applicant considers that it has reasonably demonstrated that RTD distribution within the OTE SPA is variable and that the area of the OTE SPA that would be subject to disturbance and displacement effects is not used by RTD, and therefore, conservation objective (e) would not be undermined.
- 24.4.91. NE provided representations in relation to the Applicant's interpretation of the OTE SPA conservation objectives presented in [REP5-025] [REP11-026] and [REP12-061]. NE considered that the Applicant had reached conclusions on the basis of an inadequate understanding of the conservation objectives for the OTE SPA and the favourable conservation status of the non-breeding population of RTD [REP4-089].
- 24.4.92. NE cautioned the Applicant's assertion that RTD enjoy favourable conservation status in the OTE SPA. NE advised that marine SPAs have not yet been subject to formalised condition assessment and neither NE nor JNCC can therefore say whether the site as a whole, or features within it, are in favourable condition or not. NE stated that the duty to 'maintain or restore' protected sites and their qualifying features is an inherent requirement of the Habitats and Birds Directives. NE explained that important habitats or species may be degraded or disturbed at the time when they are given site-based protection and, as such, it should not be assumed that when an SPA (such as the OTE) is classified, that it is already in favourable condition that need only be maintained at the baseline of its status at the date of classification. NE opined that if that were a correct reading of the law, there would be no need for a requirement to 'restore' the condition of an SPA or SAC, but only to maintain the status quo.

- 24.4.93. NE maintained that numbers of RTD are clearly relevant, but so too is RTD distribution within the OTE SPA and their ability to use all suitable habitat contained in the SPA; referencing its Supplementary Advice on Conservation Objectives for the OTE SPA that contains both a target to maintain RTD numbers at or above current levels, as well as a separate target to reduce the disturbance of RTD. In its legal submission [REP4-089] and in its 'Comments on Legal Submissions' [REP7-070], NE set out its view that should RTDs be denied access to part of the OTE SPA (due to disturbance and displacement effects associated with the construction and operation of the Proposed Development) that would otherwise be suitable for RTD, the effect would be to diminish the functional size of the SPA, which is contrary to the site's conservation objectives.
- 24.4.94. In regard to RTD mortality and abundance (ie conservation objective (d)), NE accepted that there is unlikely to be a detectable effect on the RTD population of the OTE SPA [REP4-087]. However, NE considered that a change in the distribution of RTD within the OTE SPA was incompatible with meeting conservation objective (e) to maintain diver distribution and that this would constitute an AEOI in its own right. Therefore, NE maintained that the Proposed Development would result in an AEOI, in-combination with other plans or projects.
- 24.4.95. At [REP6-020], the Applicant acknowledged that there would be a small amount of "disturbance" giving rise to dynamic "redistribution" of RTD in the OTE SPA but did not agree with NE's view that RTDs will be denied access to part of the OTE SPA that would otherwise be suitable for them. At [REP10-017] the Applicant pointed to its assessments and other available evidence to reiterate its view that not all parts of the OTE SPA were the same in terms of the densities of RTD recorded, and that the context for any impact must take into account those variations. The Applicant's report concluded that areas of the OTE SPA within the potential zone of influence of the wind farms have consistently recorded lower densities of birds and this should be a material factor in considering the magnitude of potential impact. Therefore, the Applicant did not agree with NE that it is appropriate to treat all parts of the OTE SPA as being of equal importance for the birds and stated that there is no evidence to support this.
- 24.4.96. At [REP11-123] in response to [REP10-017], NE accepted that densities of RTD do vary within the OTE SPA. However, with reference to the SPA classification process and 'maximum curvature analysis' (see Question 3.2.3 of [REP11-123]), NE stated that it did not accept the implication that because some parts of the OTE SPA have lower RTD densities, that impacts on these areas should not be considered as potentially resulting in AEOI. NE therefore maintained that the predicted level of effective habitat loss means that an AEOI from the Proposed Development in-combination with other plans or projects could not be ruled out beyond reasonable scientific doubt.

v. Assessment of in-combination effects

- 24.4.97. At [RR-059], NE advised that the Applicant's in-combination operational displacement assessment totals for RTD were based on an incomplete

dataset and should include all operational wind farms within the OTE SPA that received consent prior to the designation of the SPA. NE argued that excluding these projects reduced confidence in the in-combination assessments because the assessments included assumptions that may not reflect the full extent of RTD displacement, which would result in a significant underestimate of impacts [RR-059].

- 24.4.98. Throughout the Examination, the Applicant maintained its position that some, if not all, of the existing wind farm projects within the OTE SPA should be considered as part of the baseline for in-combination effects, given that some were operational prior to designation of the OTE SPA and all were operational when the latest surveys in 2018 (upon which the OTE SPA population estimates are now based) were undertaken.
- 24.4.99. Notwithstanding this view, the Applicant provided updated displacement assessments of RTD in the OTE SPA at [REP3-049, REP5-025, REP6-019, REP8-033, REP11-026] to include wind farms within the OTE SPA that received consent prior to its designation. The Applicant's revised in-combination assessment considered the dates of windfarm construction, diver survey data and designation of the OTE SPA.
- 24.4.100. In its legal submission [REP4-089], NE welcomed the inclusion of these wind farms in [REP3-049] as part of the in-combination assessment of EA1N and EA2. However, at [REP4-089] NE insisted that these existing wind farms (and those that became operational before the current RTD population figures were established) should be included as a matter of law and not "for illustrative purposes" only.
- 24.4.101. The Applicant stated that if operational wind farms were included in the assessment of in-combination effects, the total effective area of the SPA subject to displacement would be 0.4%-0.5% from EA1N (model results and no displacement due to EA2); or 1.4% (NE approach and no displacement due to EA2) of the total SPA area.
- 24.4.102. In ExQ3.2.2 [PD-049], the ExA asked the Applicant to provide the modelling outputs with the worst-case (ie NE's mortality assumptions) including East Anglia TWO contribution towards RTD displacement in the in-combination assessment. The Applicant's updated assessment of RTD displacement at D8 [REP8-033] included EA2 in the in-combination assessment.

Red-throated diver - Disturbance and displacement Proposed Development alone

- 24.4.103. NE agreed with the Applicant's conclusion that there was likely to be no AEOI from this activity from Proposed Development alone as a result of RTD displacement [RR-059] given the temporary nature of the cable laying operations.
- 24.4.104. NE also provided comment in relation to displacement impacts resulting from increased operational vessel and helicopter activity through the OTE SPA and inclusion of mitigation in the BPP [RR-059], [REP4-087]. In response to the Applicant's updated BPP [REP8-036], NE confirmed that

it was satisfied that the BPP provided appropriate best practice to mitigate disturbance from vessels and helicopters transiting the OTE SPA [REP9-063].

- 24.4.105. The ExA is content that that an AEOI can be excluded on the OTE SPA due to disturbance and displacement effects on the RTD qualifying feature arising from offshore cable laying activities (construction) and vessel traffic associated with site maintenance (operation) from the Proposed Development alone.
- 24.4.106. The Applicant provided an updated assessment of the potential disturbance and displacement effects of the Proposed Development on RTD in the OTE SPA [REP3-049, REP5-025, REP6-019, REP8-033, REP11-026]. The spatial modelling found that the average distance over which the existing windfarms in the OTE SPA have displaced birds is 7-8km (expressed as a range because the modelling used 1km wide 'buffers').
- 24.4.107. Given that the Proposed Development would be located a minimum of 8.3km from the OTE SPA boundary, the Applicant's modelling indicated that no displacement within the OTE SPA would occur from the Proposed Development. Notwithstanding its view, the Applicant applied NE's precautionary approach to the assessment (ie 100% displacement within the windfarm decreasing to 0% at 12km). The Applicant calculated that the effective area over which displacement could occur based on NE's approach equates to 0.075% of the OTE SPA. Taking into account the most recent surveys and density estimates, the Applicant calculated that between 0.2 and 40 individuals might be present in this part of the OTE SPA, of which up to 15% might be displaced (ie 0.03 to 6 individuals which is a maximum of 0.03% of the OTE SPA population), and of these, no more than 0.6 individuals might suffer mortality (at a 10% mortality rate).
- 24.4.108. The Applicant therefore considered that there would be no AEOI on the OTE SPA due to disturbance/displacement of RTD from the Proposed Development alone.
- 24.4.109. NE continued throughout the Examination to express concerns around the Applicant's modelling and its interpretation of the conservation objectives of the OTE SPA. These matters are described above. However, at [REP11-123] NE confirmed that since the Proposed Development would be located a minimum of 8.3km from the OTE SPA, it was unlikely that the Proposed Development would have a detectable effect on the RTD population of the OTE SPA.
- 24.4.110. The ExA is content that an AEOI on the OTE SPA from disturbance and displacement effects on RTD arising from the presence and operation of the turbines can be ruled out from the project alone.

Red-throated diver - Disturbance and displacement Proposed Development in-combination

- 24.4.111. NE considered that the worst-case scenario assessed for cable laying activities during construction could make a meaningful contribution to in-

combination effects on the OTE SPA and were unable to exclude AEOI (NE-0018 [REP8-110]). As discussed earlier, NE recommended that a seasonal restriction to cable laying activity be put in place in order to mitigate for this contribution.

- 24.4.112. At [REP2-004, REP9-017] the Applicant reasoned that a seasonal restriction in cable installation would not be feasible or appropriate; stating that delays to any of the activities that comprise the cable laying process could then result in works having to cease and not resume until the following summer [REP9-017]. The Applicant stated that this would present a significant risk to completing the construction programme on time and meeting Contract for Difference (CfD) contractual milestones for delivery of first power. As a result, the Applicant stated that it could not implement a seasonal restriction for what it considered to be a short-duration temporary impact. At [REP9-017] the Applicant stated that within the BPP it had committed to re-routeing other construction vessel traffic between the construction port and the windfarm site to avoid as much of the OTE SPA as is possible though the core winter months of 1 November to 1 March inclusive.
- 24.4.113. This matter remained unresolved in the draft Statement of Common Ground (SoCG) (offshore ornithology) [REP8-110] and the positions of the Applicant and NE remained unchanged at D13 [REP13-015, REP13-051].
- 24.4.114. The ExA acknowledges NE's concerns that the BPP provides no specific means of providing mitigation for the in-combination effects of cable laying. Any potential displacement and disturbance effects on the RTD features of the OTE SPA arising from cable laying activities would be short-term and temporary in nature. In addition, mitigation measures, as outlined in the BPP [REP3-074] would include a restriction on vessel movements during the period that RTD are most likely to be active and restricting vessel movements to areas of the OTE SPA where the densities of RTD are relatively low. Taking all of this into account, the ExA considers that the impacts of construction activities on RTD of the OTE SPA would be reduced to an acceptable level such that an AEOI would not arise.
- 24.4.115. The ExA is content that that an AEOI on the RTD qualifying feature of the OTE SPA from disturbance and displacement effects arising from offshore cable laying activities (construction) and from vessel traffic associated with site maintenance (operation) can be ruled out in-combination with other plans or projects.
- 24.4.116. In respect of the in-combination effects of the presence of operational windfarms, NE welcomed the inclusion of EA2 into the in-combination assessment and acknowledged that its contribution to in-combination displacement effects was small [REP8-160]. NE maintained concerns [REP9-067] that there is already an AEOI from displacement effects of RTD in-combination from existing wind farms within the OTE SPA. Whether the total area of the OTE SPA that is subjected to some level of displacement is 31% (based on the Applicant's modelling outputs), or

47% of the OTE SPA (assuming that the extent of displacement extends to 10km), NE stated that it was clear that a significant proportion of the OTE SPA by area is already subject to displacement effects. NE therefore disagreed with the Applicant's conclusions and presented its own conclusions in Table 1 of [REP9-067].

- 24.4.117. As outlined above, given that the OTE SPA is already considered to be in unfavourable condition NE advised that the ecological consequences of the Proposed Development must as a minimum be neutral to avoid further hindrance of the conservation objectives for the site. NE advised that the 'buffer' between the Proposed Development and the OTE SPA must be at least 10km to avoid undermining the conservation objectives of the site and, at any distance less than this, it would not be possible to exclude AEOI in-combination [REP6-116]. NE did not agree with the Applicant's conclusion that an AEOI on the OTE SPA from disturbance and displacement effects on RTD arising from the presence and operation of the turbines can be ruled out for the Proposed Development in-combination with other operational wind farms [REP13-048], [REP13-051]. This position was supported by the RSPB [REP8-105].
- 24.4.118. The ExA considers that uncertainty remains that AEOI can be excluded for the OTE SPA due to in-combination disturbance and displacement effects on RTD arising from the presence and operation of the turbines.

Southern North Sea SAC

- 24.4.119. The Applicant's HRA Report assessed several impact-effect pathways (see Table 24.2, above) on the qualifying feature of the Southern North Sea SAC (SNS SAC), harbour porpoise.
- 24.4.120. The Applicant's HRA Report concluded that there would be no AEOI on the Southern North Sea (SNS) SAC from any of the impact-effect pathways above on harbour porpoise, considering the conservation objectives for this qualifying feature [APP-043].
- 24.4.121. This conclusion was not accepted by NE [RR-059], and in addition The Wildlife Trusts (TWT) [RR-091] and the Marine Management Organisation (MMO) [RR-052] also expressed concerns that AEOI could not be excluded from the Proposed Development alone or in-combination AEOI, due to concerns about effects on the qualifying feature harbour porpoise.
- 24.4.122. TWT raised concern about the exclusion of fishing activities from consideration in the in-combination assessment. This matter is also addressed in Chapter 19 of this Report within the context of that Chapter. In relation to the SNS SPA, it is noted that the scope of the in-combination assessment was agreed with NE during the pre-application period and follows the approach taken by the SoS on other wind farms [APP-465] and [REP8-123], with rationale provided by the Applicant that such activity is long established and is not predicted to increase. As already discussed in Chapter 19, the ExA considers that the effects of existing and continuing fishing activity have been assessed in the baseline as agreed with NE, and that there is no evidence of additional

activity which could contribute to adverse effects above those already assessed. Therefore, the ExA is satisfied that the in-combination assessment is robust in this regard and that fishing activity can be included in the baseline.

- 24.4.123. The representations provided by NE, TWT, and the MMO set out concerns around the control of unexploded ordnance (UXO) clearance and piling activities, and the delivery of an adequate regulatory mechanism to manage underwater noise effects on harbour porpoise during construction in-combination with other plans and projects. Whale and Dolphin Conservation also expressed concerns about adverse effects of construction noise on harbour porpoise [RR-090] however did not submit any further representations into the Examination (further information is provided in Chapter 19).
- 24.4.124. The ExA explored the IPs' views on the Applicant's conclusions with respect to the other impact-effect pathways assessed in the Applicant's HRA Report [R17QF.1 PD-052]. In response, NE confirmed that it accepted that AEOI could be excluded from all other impact-effect pathways, and from disturbance from underwater noise from the Proposed Development alone (see below) [REP12-094]. NE's response stated that it considered that AEOI cannot be excluded from the effects of underwater noise when considered in-combination with other plans and projects. NE also acknowledged that this position may change should an appropriate mechanism for the control of in-combination effects be agreed with regulators (see below). TWT echoed this advice [REP12-100]. This matter is discussed in more detail in the following sections.

Harbour porpoise and the effects of underwater noise - Proposed Development alone

- 24.4.125. A draft Marine Mammal Mitigation Protocol (MMMP) was submitted by the Applicant [APP-591] for the purpose of securing embedded mitigation measures to reduce/avoid noise impacts to harbour porpoise in the SNS SAC. These measures included establishing a mitigation zone based on the maximum potential range for permanent auditory injury, termed Permanent Threshold Shift, via the activation of Acoustic Deterrent Devices (ADDs) and soft-start and ramp-up methods of working. The Applicant also presented commitments to restrictions related to UXO clearance and piling events during construction of the Proposed Development. Separate MMMPs, to be finalised post-consent, are proposed to manage each piling and UXO clearance activity. With the implementation of these mitigation measures, the Applicant concluded in section 5 of its HRA report [APP-043] that AEOI on the SNS SAC could be excluded from the Proposed Development alone, in relation to the conservation objectives for harbour porpoise.
- 24.4.126. With regards to the effects of underwater noise during construction, the proposed mitigation, consideration of alternative mitigation techniques, and mitigation monitoring were matters of discussion during the Examination. Section 2.4 of the MMO's RR [RR-052] recommended consideration of other noise impact mitigation methods such as bubble

curtains and TWT [REP4-125] also provided advice regarding mitigation measures and monitoring with respect to their effectiveness (covered in more detail in Chapter 19.4). NE [REP1-166] raised the possibility of amending conditions for UXO detonation with cluster detonations within a 5km radius as an alternative mitigation technique. The Applicant included alternative mitigation techniques in the revised MMMP [REP3-042] and IPSIP [REP3-044] submitted at D3.

- 24.4.127. Alternative mitigation techniques (including deflagration) were explored by the ExA at ISH7, where the Applicant responded that these techniques were included in the draft MMMP and IPSIP as potential options, and the use of them will be a matter for the final MMMP and SIP, depending on the information which becomes available as a result of detailed design investigations [EV-102] and the experience from other projects. The MMO supported this approach at ISH7 [EV-103]. The matter was further discussed between the Applicant and NE [REP8-161] after Deadline 7. Clustering of UXO detonations as a mitigation tool was removed by the Applicant in the updated versions of the MMMP [REP7-030] and IPSIP [REP7-031] and NE [REP8-161] and the MMO [REP9-060] confirmed satisfaction with this approach.
- 24.4.128. At Deadline 6, the Applicant submitted an updated Offshore IPMP [REP6-015] in response to discussions with IPs on monitoring requirements. NE provided comment at Deadline 7 [REP7-074] and the MMO at Deadline 8 [REP8-156]. The ExA requested further comment from NE [PD-034]. NE responded, referring to its comments at D7 [REP8-166]. The Applicant submitted an updated draft at D8 [REP8-027] following discussions with IPs, to which the MMO and NE each confirmed it was content at D9 [REP9-060, REP9-063].
- 24.4.129. The mitigation and monitoring measures are to be delivered through the draft MMMP [REP8-029] and Offshore IPMP [REP8-027] which were secured as Certified Plans in Article 36 and Schedule 17 of the dDCO [REP12-013]).
- 24.4.130. NE stated in [REP8-168] it was content that with restrictions on noisy events, the disturbance thresholds for harbour porpoise would not be exceeded. NE confirmed that it was satisfied that there will be no AEOI of the SNS SAC from the Proposed Development alone [REP8-109, REP8-167].
- 24.4.131. The ExA is satisfied that AEOI of the SNS SAC can be excluded from the effects of the Proposed Development alone, including underwater noise during construction, dependent on the implementation of the mitigation measures to be agreed with relevant stakeholders as secured in the rDCO.

Harbour porpoise and the effects of underwater noise - Proposed Development in-combination

- 24.4.132. The Applicant also submitted an In-Principle Site Integrity Plan (IPSIP) [APP-594] which set out the approach to delivery of mitigation measures to avoid AEOI on the qualifying features of the SNS SAC in combination

with other plans and projects. The purpose of the IPSIP is to provide a framework for the agreement and delivery of further mitigation measures that may be required based on the final Proposed Development design and actual in-combination scenario at the time of construction. Separate SIPs are proposed to manage piling and UXO clearance activities and will be finalised post-consent. Based on these mitigation measures, the Applicant concludes in section 5 of the HRA no AEOI for the SNS SAC in relation to the conservation objectives for harbour porpoise.

- 24.4.133. Underpinning the IPs' concerns about underwater noise effects on harbour porpoise is the SNCB noise management guidance [AS-045, Appendix 8] which stipulates that noise disturbance is significant if it excludes harbour porpoises from more than 20% of the relevant seasonal area of the SAC in any given day or excludes harbour porpoise from more than an average of 10% of the relevant area of the site over the duration of that season (Paragraph 5.3.1, [APP-043]).
- 24.4.134. The submitted MMMP and IPSIP contained no formal commitment to limit the number of overall UXO clearance or piling events that could occur in a 24-hour period. The precise form and mechanism of delivery of the restrictions to be applied to UXO clearance activities and piling events were key matters of discussion during the Examination. NE and the MMO [REP1-144] proposed that these events should be limited to one per 24-hour period via condition in the Deemed Marine Licence (DML) across both EA1N and EA2 projects.
- 24.4.135. The Applicant submitted updated assessment information [REP1-038] and an updated draft MMMP [REP3-042, REP7-030, REP8-029] and IPSIP [REP3-044, REP7-031, REP8-031] responding to comments received from NE [REP3-118 and REP4-090], TWT [REP4-125] and the MMO [REP4-081]. The updated MMMP and IPSIP committed to no concurrent piling or UXO clearance between EA1N and EA2 and these documents are formally secured by Conditions 26 (piling) and 27 (UXO clearance) in Schedule 13 and Conditions 22 (piling) and 23 (UXO clearance) in Schedule 14. The updated documents contain specific reference to DML conditions (Condition 28 of Schedule 13 and Condition 24 of Schedule 14) which prevent concurrent piling, concurrent UXO detonations or a combination of the two, and restricts the number of noisy events to one within a 24-hour period during the SNS SAC winter period.
- 24.4.136. Further details of the comments from IPs provided on the draft MMMP, IPSIP, and relevant conditions within the DML, along with the Applicant's responses are contained in the RIES [PD-051].
- 24.4.137. The updated IPSIP at D3 [REP3-044] also included an expansion in scope to include mitigation for project-alone effects. Representations were made by the MMO [REP4-081], NE [REP3-118], and TWT [REP4-125] with the view that the IPSIP is not appropriate for this purpose as project alone impacts/effects should be determined and mitigated pre-construction to give confidence in the assessment conclusions. Discussions on this matter continued, as detailed in the RIES [PD-051]. The updated MMMP and IPSIP submitted at D7 removed consideration of

effects from the project alone. The MMO [REP8-156, REP12-087], NE [REP8-168], and TWT [REP8-183] agreed with these amendments. The ExA asked NE to respond to the appropriateness and confidence in the delivery of the IPSIP mitigation measures (ExQ3 3.2.22, [PD-049]), to which NE confirmed it was content with the IPSIP [REP11-123].

- 24.4.138. Also underpinning NE's position that AEOI cannot be excluded in-combination with other plans and projects is concern around the absence of an appropriate mechanism for the control of underwater noise arising from multiple projects acting in-combination, a position held throughout the Examination [RR-059, REP1-056, REP4-095] and confirmed in its response [REP8-166] to the ExA's request for further information on 17 March 2021 [PD-034]. This was a view supported by TWT [REP4-125, REP8-183].
- 24.4.139. Following ISH3 (19 January 2021) at D3 the MMO referred to its work alongside NE under the Southern North Sea Regulators Working Group [REP3-109] in seeking a mechanism to manage activities which generate noise. In its Deadline 5 submission [REP5-075] the MMO referred to its involvement in the recent Review of Consents for the SNS SAC (BEIS September 2020) and subsequent work to vary existing DMLs for a number of other wind farms [REP5-076]. In its representation, the MMO explains the implications of this work in relation to the requirement for and function of SIPs to manage noise impacts to the SNS SAC. This matter was further explored in ISH7, during which the Applicant set out the likely responsible parties during construction and post-consent [EV-102]. Following ISH14, the MMO expanded on this work [REP8-156] and in response to ExQ3 ([PD-049], 3.2.21) provided a copy of the SNS Regulators Working Group Terms of Reference [REP11-116] confirming that control of in-combination underwater noise impacts on the SNS SAC is within the scope of the Group's responsibilities [REP11-114].
- 24.4.140. In its response to [PD-052] NE acknowledged [REP12-094] the work of the SNS SAC Regulators Group and stated that its position on AEOI may change if agreement on a mechanism can be achieved. This position is reflected in the final relevant SoCG between the Applicant and NE [REP8-109].
- 24.4.141. TWT's closing position [REP12-100] was that it was hopeful that an appropriate mechanism would be in place by the time construction would commence on the Project, but in the absence of such a mechanism, it considered that AEOI in-combination could not be excluded.
- 24.4.142. Whilst NE and TWT remained concerned about the absence of a strategic mechanism for the control of underwater noise from multiple SIPs, the ExA notes NE's agreement [REP11-123] that the IPSIP [REP8-031] would provide an appropriate framework to agree mitigation measures and that the scope of the measures within the IPSIP are appropriate. NE also agreed that through the IPSIP, the Applicants would use the most appropriate measures for the project based on best knowledge, evidence and proven available technology at the time of construction, and that it had confidence that the mitigation measures contained in the IPSIP are

deliverable. NE was clear that its outstanding concerns in this respect related to mechanisms for strategic regulatory control, rather than further actions required of this Project [REP8-167].

24.4.143. Taking all of this into account, it is the ExA's view that subject to the implementation of the mitigation and control measures secured by the recommended DMLs, underwater noise disturbance from the Proposed Development in combination with other plans and projects, would not have an adverse effect on the harbour porpoise feature of the SNS SAC.

24.4.144. The evidence indicates that there is a realistic prospect that a suitable strategic mechanism will be agreed for the control of in-combination effects at the time of construction. The ExA's view that an AEOI can be excluded does not depend on the actions of the SNS Regulators Working Group. Nonetheless, the ExA considers that the rDCO allows for the project-level control mechanisms for the Proposed Development to fit within this coordination mechanism, should it come forward.

Other relevant Examination matters

24.4.145. The agreed mitigation measures contained in the recommended DMLs, which are in turn included in the rDCO, are integral to the conclusions that have been drawn in this section. The DMLs are discussed in Chapter 28 of this Report which discusses the DCO as a whole. In relation to the assessment under the Habitats Regulations, the following matters were examined:

- The inclusion of UXO clearance activities in the DML and not by separate licence as preferred by the MMO [REP9-060] (see Chapter 19.4 to 19.5 of this Report);
- The timescales for the discharge of plans and documents relating to UXO clearance activities;
- Clarification of the meaning of the term 'UXO detonation'; and
- The adequacy of the Applicant's proposed construction monitoring (see Chapter 19, Sections 19.4 to 19.5 of this Report).

24.4.146. Despite expressing preference for UXO clearance activities to be subject to separate marine licence throughout the Examination, the MMO stated satisfaction with the wording in the DMLs and welcomed the inclusions at D7 [REP7-006] of submission of activity close out reports following UXO clearance. The MMO agreed with the inclusion of a new condition at D8 [REP8-003] securing separate SIP submission for piling and for UXO clearance activities. (Conditions 26 and 27 of Schedule 13 and Conditions 22 and 23 of Schedule 14). The MMO's final position on the content of the dDCO, and its continued preference for UXO clearance activities to be subject to separate marine licence [REP13-045] are addressed in Chapter 19 of this Report.

24.4.147. The updated wording in Condition 16 of DML1 and Condition 12 of DML2 of the rDCO which relates to the timescales of discharge and approval of documents has been agreed with NE [REP6-115, REP8-168] and the MMO [REP6-104, REP9-060].

- 24.4.148. The Applicant clarified in an updated MMMP and IPSIP [REP7-030 and REP7-031] at D7 that 'UXO detonation' can include detonation of a single UXO or a cluster of UXOs together under certain circumstances. At D9 the MMO welcomed the changes made by the Applicant [REP9-060] and NE confirmed satisfaction with this definition [REP8-161]. The ExA requested NE's views on the relevant D7 DML Conditions [PD-034] to which NE responded [REP8-166] with reference to its submission at D8 [REP8-163] and further at [REP9-068]. NE had no outstanding comments in relation to the DML Conditions.
- 24.4.149. The ExA is satisfied that there are no outstanding matters in relation to the wording of the recommended DMLs that would undermine its conclusion that AEOI can be excluded on the SNS SAC.

Sandlings SPA

- 24.4.150. The Applicant's HRA Report [APP-043] considered the potential for AEOI resulting from habitat loss and from displacement/disturbance to the breeding bird qualifying features of the Sandlings SPA. The qualifying features of the SPA are breeding woodlark and breeding European nightjar. The two qualifying features are discussed together in this Report as the matters discussed relate to both equally and identically for the purposes of the Habitats Regulations.
- 24.4.151. The Applicant's HRA Report excluded the potential for impacts from the construction and operation of the onshore substation and National Grid infrastructure due to the distance between the SPA and these activities. This was not a matter of discussion with any IPs during the Examination.
- 24.4.152. The Applicant's in-combination assessment considered in-combination effects from the Proposed Development and the other East Anglia project due to their shared landfall and onshore cable route area, as well as the proposed Sizewell C Nuclear Power Station and proposed Sizewell B Power Station Complex [APP-043].
- 24.4.153. As reported in [APP-043] the onshore cable route has been designed to minimise overlap with the Sandlings SPA. The Applicant provided more information in [REP1-043] identifying the area within the SPA affected by the onshore cable route as poor semi-improved grassland, known as the horse paddock, and in the western part of the SPA some areas of dense scrub. This area of the SPA was considered generally unsuitable as breeding habitat for the SPA qualifying species and there were no records of the presence these species. The Applicant has committed to a reduced onshore cable route working width of 16.1m within the Sandlings SPA for a length of up to 300m and will use micrositng to minimise the risks of impacts on qualifying features of the SPA. In [APP-043] the Applicant also commits to avoid locating infrastructure within a 200m buffer of the SPA, where possible.
- 24.4.154. Additionally, the Applicant provided a project update [REP2-007] committing to parallel cable duct installation for both projects should EA1N and EA2 be consented and constructed sequentially. Effectively,

this commitment means that the onshore construction effects of the Proposed Development alone would be largely similar to those in-combination with the other East Anglia project.

24.4.155. Key matters in the Examination were:

- Indirect effects on SPA qualifying features' supporting habitats;
- The construction methodology of crossing the SPA for the cable route; and
- The mitigation during construction and habitat reinstatement proposals.

Indirect effects on SPA qualifying features' supporting habitats - Proposed Development alone

24.4.156. The Applicant's HRA Report did not assess indirect effects on the supporting habitats of Sandlings SPA arising from onshore cable construction works at the Hundred River crossing, or from emissions to air during construction. These matters were raised by other IPs during the Examination.

24.4.157. NE highlighted in its RR [RR-059] that the Hundred River is hydrologically linked to Sandlings SPA and requested an assessment of alternative crossing methods to include Horizontal Directional Drilling (HDD). The Applicant had stated in its ES (Chapter 22, paragraph 203 [APP-070]) that its preferred method was open-cut trenching.

24.4.158. The ExA explored the question of alternative crossing measures and the potential for impacts to the SPA in ExQ1 (questions 1.2.66 and 1.2.67) [PD-018]. The Applicant responded to these questions in [REP1-107] stating the intention to submit an Outline Watercourse Crossing Method Statement (OWCMS) at D3, to contain an account of the options and mitigation considered. The Applicant subsequently submitted this document [REP3-048] which presented an assessment of two alternative methods of crossing the Hundred River (dry and flume pipe techniques). Appendix 4 of the OWCMS explained that trenchless techniques were not considered viable due to the number of constraints, including the lack of lateral space, the need for a longer duration of works, and the requirement for specific plant and equipment to undertake the works including additional work compounds.

24.4.159. NE highlighted that the OWCMS did not present a specific discussion on potential environmental impacts to Sandlings SPA [REP4-092] and requested that either an Outline EMP or a revised OWCMS was submitted to the Examination to allow it opportunity to comment or agree to no AEOI in relation to the Hundred River crossing. ESC commented on the OWCMS [REP4-059] querying whether a restricted working width narrower than the proposed 70m could be achieved at the river crossing.

24.4.160. The ExA explored these matters at ISH7 on 17 February 2021 [EV-101 and EV-107], where the Applicant confirmed its intended submission of an updated OWCMS at D6. The updated OWCMS [REP6-041] and a further update [REP8-084] included a HRA screening exercise. The SoCG

between the Applicant and NE [REP8-108] agrees that AEOI are unlikely to arise from downstream impacts from the Hundred River Crossing, subject to the measures controlled by the final OWCMS [REP11-074].

- 24.4.161. ESC provided further comment [REP7-063] on the OWCMS [REP6-041]. The Applicant responded to comments from IPs explaining its approach and that the working width would be restricted further at detailed design if possible [REP8-048].
- 24.4.162. The final crossing methodology will be decided post-consent in agreement with the LPA through a final Watercourse Crossing Method Statement (WCMS) secured within the CoCP by Requirement 22 of the rDCO. The ExA is content that the OWCMS provides sufficient information on the controls to be secured and the likely methods of working to be included in the final WCMS. The ExA is satisfied that the final WCMS will secure the necessary measures to avoid downstream effects on the Sandlings SPA.
- 24.4.163. Air quality effects on Sandlings SPA were also subject to discussion during the Examination. Following comments from NE at D2 [REP2-055], the Applicant updated its Onshore Ecology Clarification Note 9 (originally submission [REP1-023], updated version [REP3-060]) and submitted an Air Quality Clarification Note [REP3-061]. NE provided comments at D4 [REP4-092] requesting a full assessment of the resulting effects of change in air quality during construction and decommissioning on the supporting habitats of the Sandlings SPA.
- 24.4.164. The ExA explored this matter at ISH7 where ESC highlighted its outstanding concerns related to the potential impacts of emissions from non-road mobile machinery (NRMM) at the onshore cable landfall area [EV-101], also [REP7-063]. At ISH7 ESC welcomed the Applicant's commitments to minimum standards for NRMM but highlighted that the information within the Outline CoCP [REP6-003] needed to be clarified in this regard [EV-101], REP8-151]. Discussions on this matter continued through the Examination. In response to the D10 version of the OCoCP [REP10-003] ESC confirmed satisfaction with the commitments in place in relation to NRMM [REP11-110]. ESC restated its preference for an open-cut construction technique for crossing the SPA with respect to minimisation of emissions to air [REP8-114], and stated it deferred to NE with respect to assessment conclusions pertaining to designated sites [REP7-063] [REP8-114].
- 24.4.165. In response to NE's comments at D4 [REP4-092] the Applicant provided an update to its Onshore Ecology Clarification Note [REP6-025]. In [REP6-025] the Applicant further considered NRMM impacts on ecological receptors and in it the Applicant concluded that: *"... impacts on the habitats associated with the SPA could not be considered to be insignificant. However, the annual mean NO_x Critical Level is not predicted to be exceeded at any receptor, with the exception of receptor E5 which is located immediately south of the proposed landfall HDD compound and is outside the SPA."*

- 24.4.166. In [REP6-025] the Applicant compared the habitats and species of the receptor locations that were set out in Table 2.1, ie those locations within designated sites that would be closest to the predicted emission sources, to that of the wider SPA. The Applicant did not consider that the receptor locations were representative of the wider Sandlings SPA or of ecological value to the function and integrity of the SPA. The ExA has not been presented with any substantive evidence to contradict this.
- 24.4.167. Following on from earlier comments, at D9 ESC also provided comment [REP9-040] on the Applicant's updated OWCMS [REP8-084], Outline Landfall Construction Method Statement [REP8-053], and Outline Code of Construction Practice (CoCP)[REP8-017]. With reference to the Outline CoCP, ESC provided advice regarding mitigation and monitoring for emissions from NRMM at the onshore cable landfall area. The Applicant submitted Version 6 of the Outline CoCP at D10 [REP10-003] responding to these comments.
- 24.4.168. In response to ExQ3.2.28 [PD-049] NE confirmed it did not consider ammonia emissions from vehicles/machinery to represent a pathway for significant impacts to the SPA [REP11-123]. No further comments were received from NE on the updated assessment of air quality effects on the Sandlings SPA. The SoCG between the Applicant and NE [REP8-108] records agreement with the conclusions of the Applicant's HRA report during construction, operation and decommissioning [APP-043], and in [REP8-162] NE advise that AEOI are unlikely to result on the SPA from an open-cut trench.
- 24.4.169. Taking all of this into account, the ExA considers that AEOI on the Sandlings SPA from the project alone can be excluded from indirect effects to qualifying features' supporting habitats as a result of emissions to air and construction works at the Hundred River crossing.

Indirect effects on SPA qualifying features' supporting habitats Proposed Development in-combination

- 24.4.170. The commitment to parallel cable duct installation effectively means that the construction effects discussed for the Proposed Development alone above are similar to those in-combination with the other East Anglia project. No other plans or projects were considered to act in-combination with the Proposed Development in terms of indirect effects on the SPA qualifying features' supporting habitats. NE agreed with the conclusions of the in-combination assessment [REP8-108].
- 24.4.171. The ExA is satisfied that AEOI on Sandlings SPA can be excluded from indirect effects to supporting habitats both alone and in-combination with other plans and projects.

Habitat loss (all project phases) Proposed Development alone

- 24.4.172. The Applicant's HRA Report ruled out AEOI from habitat loss on the SPA during construction and decommissioning of the Proposed Development due to the nature of the habitat affected, the distribution of the qualifying features, and the proposed mitigation measures [APP-043]. The

Applicant's HRA Report ruled out operational effects from habitat loss, as no further habitat loss would result, and all habitats are proposed to be reinstated along the cable route corridor.

- 24.4.173. The key matters of discussion during Examination were the method of cable installation within the SPA, and the mitigation measures proposed to be implemented during construction and habitat reinstatement set out within the Outline Landscape and Ecological Management Strategy (OLEMS) originally submitted by the Applicant as [APP-584] and the Outline SPA Crossing Method Statement, originally submitted by the Applicant as [REP1-043].
- 24.4.174. The rDCO retains flexibility in the choice of crossing method within the SPA and the vicinity. The cable duct installation will be carried out using either a trenchless technique such as HDD or an open-cut trench methodology. Disagreement in the preference for either method arose between IPs and the Applicant and this is discussed in the following sections.
- 24.4.175. The Applicant's OLEMS explained the preference for the cable route crossing of the Sandlings SPA to be carried out utilising open-cut trench methods (referred to as open trench technique in the Outline SPA Crossing Method Statement). In paragraph 37 of the HRA [APP-043] the Applicant assessed the impacts associated with both open-cut trench and HDD methodologies for crossing the Sandlings SPA. While the Applicant stated that the worst-case scenario for habitat loss impacts were associated with the use of the open-cut crossing methodology, this method was preferred due to reduced disturbance effects compared to trenchless techniques.
- 24.4.176. Both NE [RR-059] and Save Our Sandlings [REP3-122], put forward their preference for HDD methodologies to undertake the crossing, to avoid habitat loss. The Applicant [AS-036] stated that habitat loss impacts using an open-cut method were minimised by crossing the SPA at its narrowest point and reducing the onshore cable route working width to 16.1m. The cable working width for the other East Anglia project would also be 16.1m and situated adjacent to that of the Proposed Development in this location. This working width is secured by Requirement 12 in the rDCO.
- 24.4.177. The Applicant held its position in its submitted Outline SPA Crossing Method Statement [REP1-043], which provided further details on the potential methodologies to be adopted. NE responded to this document [REP2-053] stating concern that open-cut methods would divide the SPA and cause disruption over multiple breeding seasons beyond installation; and stating that it was not content to rule out AEOI on the Sandlings SPA from construction effects.
- 24.4.178. The Applicant responded to NE at [REP3-070] confirming that there will be no loss of functioning habitat for SPA qualifying species based on their known distributions. The ExA explored these matters at ISH3. Further

details of representations on this matter, including those from the RSPB, are detailed in the RIES [PD-051].

- 24.4.179. NE also requested justification as to the habitat reinstatement and enhancement within the SPA crossing, its function, timeframe and monitoring, advising that enhancement should go beyond the proposed five years post-cable installation identified by the Applicant [REP2-053, REP4-092]. The OLEMS was subsequently updated during the Examination incorporating comments from IPs and following discussion at ISH7 (17 February 2021) [REP3-030] and again at D6 [REP6-007], D8 [REP8-019] and D10 [REP10-005].
- 24.4.180. NE provided comments on the D6 revisions of the Outline SPA Crossing Method Statement and OLEMS at D8 [REP8-162], which welcomed the commitment to consultation, monitoring, and mitigation and stated that an AEOI of the Sandlings SPA was unlikely to occur from an open-cut trench crossing option subject to these measures being implemented. The RSPB in [REP8-104] also expressed satisfaction with this conclusion, subject to the mitigation within the Outline SPA Crossing Method Statement being approved by NE and adequately secured in the dDCO.
- 24.4.181. The ExA is satisfied that AEOI can be excluded from habitat loss from the Proposed Development alone.

Habitat loss (all project phases) Proposed Development in-combination

- 24.4.182. The Applicant's HRA Report assessed two scenarios of the EA1N and EA2 onshore works acting in combination: either the projects being built simultaneously or sequentially [APP-043]. The Applicant's commitment to parallel cable duct installation effectively means that the construction effects discussed for the Proposed Development alone are identical to those in-combination with the other East Anglia project. Operational effects would also be the same.
- 24.4.183. No other plans or projects were considered to act in-combination with the Proposed Development in terms of habitat loss due to their location and the known distribution of the SPA qualifying species and their supporting habitats [APP-043].
- 24.4.184. It is noted that in the SoCG between the Applicant and the RSPB [REP8-104] that the Applicant's in-combination assessment conclusions are agreed, subject to the proposed mitigation. However, RSPB noted the potential need to revisit interaction with other projects if further changes are made to the timescales of the Proposed Development. NE has agreed with the conclusions of the in-combination assessment [REP8-108].
- 24.4.185. The ExA considers that the rationale behind concluding that the other projects considered in [APP-043] would not contribute to in-combination effects is not sensitive to timescale changes. Based on the information known about in-combination pathways for effects at the close of the Examination, the ExA is satisfied that no AEOI on Sandlings SPA will result in-combination with the other projects assessed.

Displacement/disturbance (all project phases) Proposed Development alone

- 24.4.186. The Applicant's HRA Report ruled out operational displacement / disturbance effects on the qualifying features, due to the infrequent and minor scale of routine maintenance activities [APP-043]. This was not a matter of discussion from IPs. Construction phase effects and in particular the crossing method and mitigation measures were key areas of Examination.
- 24.4.187. The consideration of the SPA crossing method during construction is also of relevance to consideration of displacement/disturbance effects. The Applicant's HRA Report concluded that the worst-case for disturbance impacts are associated with the HDD crossing methodology. In Table 3.2 and section 3.3 of [APP-043], the Applicant states that an open-cut crossing technique was preferred for the onshore cable corridor route on the basis that duration of the works will be significantly less (an estimated one month, outside of the breeding season within the SPA and 2 months within a 200m buffer set around the SPA boundary) compared to HDD (which will last more than a two-year period assuming that works are seasonally restricted). The Applicant therefore concluded that a reduced period of disturbance would be preferable using an open-cut technique to cross the SPA rather than an extended period of disturbance using an HDD technique.
- 24.4.188. The Applicant's view regarding crossing method preference was supported by ESC [REP4-059] which considers that open-cut techniques are preferable across the SPA to reduce the amount of machinery required and therefore minimise potential air quality and disturbance impacts.
- 24.4.189. NE [RR-059] requested seasonal restrictions on the SPA crossing to avoid works taking place during the bird breeding season and requested that this was secured in the dDCO and Code of Construction Practice. In response, the Applicant stated in the Outline SPA Crossing Method Statement (Section 2.4 [REP1-043]) that no construction works associated with the SPA crossing if undertaken by open cut trenching will be undertaken within the SPA or 200m buffer during nightjar and/or woodlark breeding bird season (01 February to 31 August; this extends slightly beyond the breeding season) unless otherwise agreed with the local planning authority (LPA) and NE. The Applicant stated this seasonal restriction would not apply if the crossing was undertaken by HDD [REP3-084].
- 24.4.190. The Applicant submitted an updated OLEMS [REP3-030] to reflect this commitment. The OLEMS sets out the content of an Ecological Management Plan (EMP) to be produced post-consent and the EMP will include a Breeding Bird Protection Plan securing seasonal restrictions. The Applicant considered that these measures were sufficiently secured through Requirement 21 of the draft DCO [APP-023], as NE is named as a statutory consultee on the EMP. Within the Requirement, construction of the onshore works cannot commence until the approval of the EMP by the LPA.

- 24.4.191. Within its comments on the OLEMS [REP5-084], NE acknowledged that the updated OLEMS provided additional clarity and accepted that the timing of the seasonal restriction can be based on the approach described, subject to its approval in advance of works. This matter was explored by the ExA at ISH7 (17 February 2021) whereby the Applicant confirmed its view that the seasonal restriction is robustly controlled by the OLEMS. Control of the proposed seasonal restriction remained a concern for NE at D8 [REP8-162] advising that it must be explicitly named as a consultee in the final CoCP. At D9 [REP9-069] it notes that the updated OLEMS [REP8-019] has updated sections relevant to NE's remit but that this previous advice regarding the CoCP remained unchanged. The Applicant responded in [REP9-016] setting out discussions held and submitted an updated CoCP at D10 [REP10-003] to specifically list the plans where the Applicant will consult the relevant SNCB including those relating to the Sandlings SPA.
- 24.4.192. The Applicant submitted an updated Outline SPA Crossing Method Statement at D6 [REP6-036]. Comments were received from ESC at D7 [REP7-063] seeking clarification on the need for intrusive pre-construction surveys within the SPA. The Applicant responded in [REP8-048] that the Outline SPA Crossing Method Statement submitted at D6 confirms that no pre-construction surveys will be carried out within the SPA crossing area during the nightjar or woodlark breeding season, and that pre-construction surveys would be subject to approval by the relevant planning authority under the EMP secured in the dDCO.
- 24.4.193. The SoCG between the Applicant and the RSPB [REP8-104] states that the outcomes of the Applicant's HRA [APP-043] are agreed subject to the agreement of the Outline SPA Crossing Method Statement and the proposed mitigation being secured. The SoCG between the Applicant and NE [REP8-108] states agreement that there would be no AEOI on Sandlings SPA, subject to mitigation as contained in the Outline SPA Crossing Method Statement, CoCP, and OLEMS.
- 24.4.194. Requirement 21 of the rDCO secures the final EMP to be in accordance with the OLEMS, and the final SPA Crossing Method Statement as part of this. The ExA is satisfied that the rDCO adequately secures the mitigation and reinstatement required and is satisfied that following implementation of these measures that there will be no AEOI on Sandlings SPA as a result of disturbance/displacement effects.

Displacement/disturbance (all project phases) Proposed Development in-combination

- 24.4.195. The same rationale applies to in-combination displacement/disturbance effects as for in-combination habitat loss. NE have agreed with the conclusions of the in-combination assessment [REP8-108]. The ExA is satisfied that no AEOI on Sandlings SPA will result in-combination with the other projects assessed.

AEOI Assessment Outcomes- Summary

Project alone effects

- 24.4.196. The Applicant's HRA Report concluded that AEOI on the qualifying features of all the European sites listed in Table 24.1 can be excluded in relation to the LSE identified from the Proposed Development alone.
- 24.4.197. The SoCGs [REP8-108, REP8-109, REP8-110] between the Applicant and NE record agreement that AEOI can be excluded from the project alone for the following qualifying features and sites:
- Alde-Ore Estuary SPA and Ramsar– breeding lesser black-backed gull;
 - Flamborough and Filey Coast SPA– seabird assemblage, kittiwake, gannet, guillemot and razorbill;
 - Outer Thames Estuary SPA– red-throated diver;
 - Southern North Sea SAC– harbour porpoise; and
 - Sandlings SPA– breeding nightjar and breeding woodlark.
- 24.4.198. These conclusions were also agreed with the RSPB, as reflected in the SoCGs between the Applicant and the RSPB [REP3-080, REP8-104, REP8-105]. The MMO deferred to NE for offshore ornithology matters; but stated its agreement to the Applicant's mitigation measures with respect to the Southern North Sea SAC in [REP9-060] and this is recorded in the final SoCG between the Applicant and the MMO [REP12-073].
- 24.4.199. The Applicant's conclusions on project alone AEOI for these qualifying features were not disputed by any other IPs during the Examination.
- 24.4.200. Based on the findings of the Examination, the ExA is satisfied that AEOI on all qualifying features of the European site(s) can be excluded from the Proposed Development for the project alone.

In-combination effects

- 24.4.201. The Applicant's HRA Report [APP-043] concluded that AEOI on the qualifying features of all the European sites listed in Table 24.1 can be excluded in relation to the LSE identified from the Proposed Development in-combination with other plans and projects.
- 24.4.202. The SoCG between the Applicant and NE recorded agreement regarding the conclusions that in-combination AEOI on Sandlings SPA and Southern North Sea SAC qualifying features can be excluded [REP8-108, REP8-109]. The MMO deferred to NE on offshore ornithology matters but stated its agreement to the Applicant's mitigation and monitoring measures [REP9-060, REP12-073]. In [REP12-100] TWT indicated it did not agree to the conclusions regarding AEOI in-combination for the Southern North Sea SAC due to concerns around the uncertainty about wider regulatory mechanisms to control underwater noise.
- 24.4.203. Taking into account the relevant representations that were received during the Examination and the mitigation measures proposed to address identified effects, the ExA is satisfied that the Proposed Development

would not result in any in-combination AEOI effects on the following sites and qualifying features:

- Flamborough and Filey Coast SPA – seabird assemblage;
- Southern North Sea – Harbour porpoise; and
- Sandlings SPA - breeding nightjar and breeding woodlark.

24.4.204. However, the ExA has found that an AEOI in-combination with other plans and projects cannot be excluded beyond reasonable scientific doubt for:

- Alde-Ore Estuary SPA and Ramsar - lesser black-backed gull;
- Flamborough and Filey Coast SPA - kittiwake, gannet, razorbill and guillemot; and
- Outer Thames Estuary SPA – red-throated diver.

Engaging with the HRA Derogations

24.4.205. Under the Habitats Regulations, where AEOI cannot be excluded beyond reasonable scientific doubt, the project can proceed only if there are no alternative solutions and there are imperative reasons of overriding public interest (IROPI) why the project must proceed (the HRA derogation tests). Suitable compensation measures must also be secured to ensure the overall coherence of the UK National Site Network.

24.4.206. The Applicant did not include information on the derogation tests or compensation measures as part of its Application and maintained its in-principle position that there would be no AEOI for any European sites from the project alone or in-combination with other plans and projects until the end of the Examination. However, in response to questions from the ExA [PD-013][EV-034b] and sustained objections from NE and RSPB, at D3 of the Examination the Applicant submitted a derogations case [REP3-053] and compensatory measures document [REP3-054], both of which were submitted without prejudice to the Applicant's in-principle position.

24.4.207. In light of the ExA's findings (above) that an AEOI cannot be excluded for the qualifying features of three European sites, it is the ExA's view that it is necessary for the project to engage with the HRA derogation tests and to secure suitable compensation measures.

24.4.208. The Applicant subsequently updated its derogation case during the Examination, at D6 [REP6-044], D8 [REP8-088], D11 [REP11-069], and D12 [REP12-059]. The compensation measures document was also updated at D6 [REP6-045], D8 [REP8-089], D11 [REP11-071], and D12 [REP12-060]. The consideration of HRA derogation matters and the proposed compensation measures within the Examination are discussed in the following Sections of this Chapter.

24.4.209. Bringing together all of the ExA's findings in respect of AEOI, Table 24.4 (below) provides a summary of its conclusions for each of the European sites.

Table 24.4 ExA's Conclusions in relation to AEOI at the end of Examination

European Sites and Qualifying feature(s)	LSE identified from:	AEOI alone excluded	AEOI in-combination excluded	HRA derogations engaged	Compensation required?
Alde-Ore Estuary SPA and Ramsar					
Breeding lesser black-backed gull	Collision mortality (operation)	Yes	No	Yes	Yes
Flamborough and Filey Coast SPA					
Breeding kittiwake	Collision mortality (operation)	Yes	No	Yes	Yes
Breeding gannet	Collision mortality (operation)	Yes	No	Yes	Yes
	Displacement/ disturbance (operation)	Yes	No	Yes	Yes
	Collision + displacement	Yes	No	Yes	Yes
Breeding common guillemot	Displacement/ disturbance (operation)	Yes	No	Yes	Yes
Breeding razorbill	Displacement/ disturbance (operation)	Yes	No	Yes	Yes

European Sites and Qualifying feature(s)	LSE identified from:	AEOI alone excluded	AEOI in-combination excluded	HRA derogations engaged	Compensation required?
Seabird assemblage	Displacement/ disturbance (operation)	Yes	Yes	No	No
Outer Thames Estuary SPA					
Red-throated diver	Collision mortality (operation) and barrier effect (all project phases)	Yes	Yes	No	No
	Displacement/ disturbance (all project phases)	Yes	No	Yes	Yes
Southern North Sea SAC					
Harbour porpoise	Disturbance due to underwater noise (all project phases: construction)	Yes	Yes	No	No
	Vessel interactions	Yes	Yes	No	No
	Disturbance at haul out sites (all project phases)	Yes	Yes	No	No

European Sites and Qualifying feature(s)	LSE identified from:	AEOI alone excluded	AEOI in-combination excluded	HRA derogations engaged	Compensation required?
Sandlings SPA					
Breeding nightjar	Habitat loss (all project phases)	Yes	Yes	No	No
	Displacement/ disturbance (all project phases)	Yes	Yes	No	No
Breeding woodlark	Habitat loss (all project phases)	Yes	Yes	No	No
	Displacement/ disturbance (all project phases)	Yes	Yes	No	No

24.5. CONSIDERATION OF ALTERNATIVE SOLUTIONS

- 24.5.1. The wider examination of alternatives to the Proposed Development in the terms of the Overarching NPS for Energy NPS EN-1, NPS EN-3 Renewable Energy and NPS EN-5 Electricity Networks is reported in Chapter 25 of this Report. This section addresses the examination of the alternative solutions test under the requirements of the Habitats Regulations.
- 24.5.2. Guidance from the EC (Guidance Document of Article 6(4) of the Habitats Directive 92/43/EEC, 2012) and from Defra (Habitats and Wild Birds Directives: guidance on the application of article 6(4) Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures. Defra, 2012) states that alternatives must be financially, legally, and technically feasible. Alternatives must be capable of achieving the objectives of the Proposed Development and demonstrate a lesser adverse effect or avoid AEOI on the European site in question. This guidance is referred to in the Applicant's HRA Derogations Case – D12 Update [REP12-059] as well as Representations from NE. The ExA has considered the alternatives solutions test in line with the requirements of the Habitats Regulations with reference to this guidance and the Examination submissions. The 2012 guidance has been updated (Defra, Welsh Government, NE, Natural Resources Wales 2021) and this was also taken into account by the Applicant as confirmed in its response to ExQ3 Question 3.2.17 [REP11-088].
- 24.5.3. The Applicant's reports submitted for D6 [REP6-044] and D8 [REP8-088] responded to matters discussed at ISH14 and ongoing submissions from and discussions with stakeholders. A further update of the derogations case was submitted by the Applicant at D12 [REP12-059].
- 24.5.4. Section 4 of the Applicant's derogation case [REP12-059] sets out its case that no alternative solutions to the Proposed Development exist that would result in lesser adverse effects or avoid AEOI on the European sites affected by the Proposed Development. It sets out a staged approach which considered the 'do nothing' option, whether there were alternative forms of energy generation that would achieve the objectives of the Proposed Development, alternative locations, and alternative designs. The Applicant's document addressed matters of feasibility and identified the objectives of the Proposed Development.

'Do nothing' Option and Alternative Energy Generation Projects

- 24.5.5. Chapters 5 and 25 of this report address the need case for the Proposed Development and alternatives in terms of alternative forms of energy generation to meet such needs.
- 24.5.6. The ExA has concluded that a compelling need for the Proposed Development has been established and that the 'do nothing' option is not a feasible alternative. In HRA terms 'do nothing' would fail to meet the

objectives of the Proposed Development and is not considered an alternative solution.

- 24.5.7. The ExA has considered alternative forms of energy generation, and concludes, in line with Defra 2012 guidance, that only other offshore wind projects should be considered, as alternative types of energy generation do not meet the objectives of the Proposed Development. In the ExA's view, other windfarm projects do not represent an alternative solution as all available projects are required in order to meet 2030 targets for renewable energy within the UK, and the Proposed Development represents a necessary component of the renewable energy provision. These conclusions are in line with the conclusions of the HRA for H3 (BEIS 2020) in the examination of alternatives.

Alternative Locations and Sites

- 24.5.8. The consideration of other locations is intrinsically linked to the consideration of other available projects, given that site selection for all offshore wind proposals is bound in the UK by The Crown Estate (TCE) leasing process. Sites not within the areas identified by the TCE process or outside of that which the Applicant has secured through the associated bidding process (the southern East Anglia Zone) are not legally available, and therefore are not legally feasible. Chapter 25 of this report addresses this matter in more detail. Sites outside of the UK would not contribute to the UK renewable energy targets and therefore would not meet the objectives of the Proposed Development.
- 24.5.9. The Applicant's HRA Derogations Case – D12 Update [REP12-059] provides information on the site selection process applied to the southern East Anglia Zone, cumulating in the identification of the offshore Proposed Development site and the other East Anglia project site as the most suitable remaining sites. Going back to the Proposed Development's objective to contribute to the UK's renewable energy targets, the ExA considers that there is a clear case that both projects are needed and therefore the other East Anglia project does not represent a feasible alternative solution.
- 24.5.10. The ExA is satisfied that no alternative locations or sites exist for the offshore wind farm array that would present a feasible alternative solution. No IPs have raised this matter in regard to proposed offshore infrastructure during the Examination.

Alternative Design Parameters

- 24.5.11. The Applicant's HRA Derogations Case – D12 Update [REP12-059] set out the project design parameters which had been subject to review following representations from IPs with concerns around HRA matters. During the Examination corresponding changes to the Proposed Development have been made, as addressed in Chapter 2 and in Section 24.4 of this Report.
- 24.5.12. Of relevance to the European sites for which AEOI cannot be excluded was the increase of the minimum air-draught height from 22m to 24m as mitigation for adverse effects arising from collision risk (in relation to the

qualifying features of FFC SPA and Alde-Ore Estuary SPA). The purpose and rationale for these commitments is set out in the Applicant's Offshore Commitments document [REP3-073]. This change had been accepted and is incorporated into the Proposed Development parameters as secured in the rDCO.

- 24.5.13. The Applicant's derogations case [REP12-059] explored project-level alternatives beyond these accepted changes to the design parameters of the Proposed Development. Alternative scales or designs that would reduce capacity for electricity generation were concluded to fail to meet the objectives of the Proposed Development for electricity generation.
- 24.5.14. The Applicant also produced a Layout Principles Statement at D8 [REP8-076] and updated at D9 [REP9-031] setting out the recommendations that the Applicant has followed in determining the spatial layout of the array. NE made no reference to the Layout Principles Statement in its Deadline 9 or Deadline 10 responses.
- 24.5.15. Alternatives to operation in the form of turning turbines off during sensitive periods of the year and excluding vessel transits from OTE SPA were also excluded, on the basis of failure to meet objectives for electrical capacity, and objectives for commercial viability including cost to consumers.
- 24.5.16. Throughout its representations on HRA derogations matters NE maintained its advice that every effort must be made to rule out alternative solutions before progressing to considerations of IROPI and of compensation measures [REP5-082, REP7-071, REP12-089]. NE's continued advice was that increasing the distance (known as the 'buffer') between the Proposed Development and the boundary of OTE SPA could avoid AEOI, advising a distance of 10km [RR-059, REP6-116, REP8-167]. NE stated in its final submission [REP13-048] in response to [REP12-059] that *'We consider that there remains some doubt that the Applicant had satisfactorily demonstrated that the 'alternatives test' has been met as regards reducing impacts on the Outer Thames Estuary SPA for impacts on red-throated diver'*.
- 24.5.17. The Applicant stated it considered that it had exhausted all avenues for mitigation for disturbance/displacement effects and collision risk impacts [REP8-049], referred to information presented at Deadline 3 [REP3-052 and REP3-073]. The Applicant concluded that no alternatives to the proposed design parameters would be feasible [REP3-053], a position maintained in [REP12-059].
- 24.5.18. The ExA is satisfied that no alternative design parameters are known to be implementable that would present a feasible alternative solution.

Demonstrated Lesser Adverse Effect on Integrity

- 24.5.19. Alternatives to operation were discussed in the Applicant's derogation case [REP12-059]. These options were deemed by the Applicant to not represent alternative solutions as they would fail to meet the objectives of the Proposed Development and were not assessed in detail.

Nevertheless, the Applicant stated that the options discussed would have a minimal influence on the adverse effects of the Proposed Development.

- 24.5.20. The Applicant described its investigation of the ecological consequences of installing fewer higher (than maximum parameter) capacity turbines in Table 4.8 of [REP12-059]. The Applicant concluded that this approach was not feasible but also stated that to do so would not make a perceptible difference to collision effects, however, this was not fully assessed by the Applicant.
- 24.5.21. Despite discussions between the Applicant and NE regarding the provision of a greater buffer between the Proposed Development and the boundary of OTE SPA, the Applicant maintained that increasing the buffer would not be feasible. Nevertheless, the Applicant undertook an assessment of disturbance and displacement effects on RTD out to 15km [REP3-049, updated REP5-025, REP6-019]. This assessment concluded that at 7km distance densities of divers would be close to background levels (ie no effects) and that a larger buffer to achieve complete avoidance of effects was not supported. NE continued to disagree on this point based on the outcome of the London Array monitoring, advising that disagreement around the modelling of displacement effects on RTD [REP6-113 and REP9-067] had given rise to concerns that effects had been underestimated in that case. Section 24.4 of this Chapter covers the assessment of AEOI.
- 24.5.22. The ExA is satisfied that no compelling evidence has been presented to demonstrate a lesser adverse effect would be achieved by the implementation of an alternative means of operation or alternative design parameters.

Examination of Alternative Solutions

- 24.5.23. The position presented by the Applicant in its derogations case [REP3-053] and subsequent revisions was that further alteration to the buffer, layout, turbine size and air-draught parameters of the Proposed Development were not feasible. This was the position held at the end of the Examination.
- 24.5.24. The ExA explored the Applicant's investigations of the feasibility of alternatives through ExQ2 [PD-030]. Questions 2.2.3, 2.2.6, and 2.2.7 were directed to the Applicant seeking further evidence on the decisions made regarding the design of the Proposed Development, specifically the chosen design parameters of the wind turbine generators, array order limits, alternative turbine layouts, and alternative minimum turbine air-draught. The Applicant responded at Deadline 6 [REP6-061], providing further evidence regarding the technology likely to be available and re-iterating the constraints identified in its derogations case [REP6-044 at that time].
- 24.5.25. AEOI from collision risk: The Applicant's derogations case at that point in the Examination, and in updated versions, provided narrative on the implications of increasing minimum air-draught beyond 24m. The

Applicant referred to this information in response to Question 2.2.3 and 2.2.7 stating that while an increase to 30m above MHWS was possible in terms of available technology, it would come with increasing commercial impact and implications for tower height and foundation type that were not possible to commit to in the absence of information on site conditions from pre-construction investigations. In its D8 Offshore Ornithology Cumulative and In-combination Collision Update [REP8-035] the Applicant also made the case that it was unable to commit to further increases above 24m due to an absence of detailed site investigation data, without which the commercial viability of a project with greater air-draughts was questionable.

- 24.5.26. AEOI from disturbance/displacement: ExQ2 Question 2.2.6 to the Applicant sought a plan showing the identified constraints (eg water depths) and further evidence including plans on how the infrastructure could be accommodated within the array area and what alternative designs had been considered. The Applicant's response referred to the updated HRA Derogation Case [REP6-044] which included an indicative layout plan of 75 wind turbine generators (WTGs), associated infrastructure and water depths.
- 24.5.27. The Applicant explained that changes to layout and turbine size would not affect the predicted ecological consequences of disturbance/displacement as the assessments are based on the windfarm site boundary position.
- 24.5.28. However, it is noted that the Applicant includes within its response a narrative that due to unknown constraints and limitations, flexibility must be retained in the spacing and subsequently the array area. It also states that subject to the outcomes of pre-construction site investigations, the final spacing is likely to lie between the 'nominal spacing' and the 'realistic minimum spacing' it describes [REP11-088].
- 24.5.29. Advice in response to the updated document [REP11-069] was provided by NE [REP12-089]. NE noted the absence of a layout on Figure 1 to include fewer, larger turbines in the Applicant's updated submissions, and maintained at D12 that the Applicant should provide a range of layout options to enable an informed decision on the availability of alternative options that could provide an increased buffer. No further layout options have been presented to the Examination by the Applicant or NE or assessed in terms of their effects on the OTE SPA.
- 24.5.30. In [REP13-048] NE's final advice is that doubt remained that the test of 'no alternative solution' has been satisfied with respect to impacts on RTD of the OTE SPA, re-stating that a buffer of 10km would be likely to avoid adverse effects of displacement.
- 24.5.31. The ExA has explored the feasibility of an alternative design to deliver a greater air-draught height and reduced collision risk, and alternative design to deliver a greater distance between the proposed array area and the OTE SPA boundary. The evidence before the ExA suggests that a defined alternative is not available which would be feasible and result in

lesser adverse effects on the qualifying features of the FFC SPA, LBBG of the Alde-Ore Estuary SPA or the RTD of the OTE SPA.

- 24.5.32. It remains possible that a greater MHWS clearance (air-draught height) could be achieved through the detailed design process, subject to pre-construction engineering and environmental investigations. However, the information needed to define this alternative is not available. Furthermore, the precise ecological implications of this for the qualifying features affected by collision risk are not known. It also remains possible that a greater buffer distance in relation to the OTE SPA could be achieved once the outcomes of detailed site investigations are known. Again, however, the information needed to define and propose an alternative buffer is not available. The precise ecological implications for RTD are not known for any further refinement that these investigations may achieve.

Conclusions on Alternative Solutions

- 24.5.33. Changes to the Proposed Development's parameters and their role and efficacy as mitigation for adverse effects (eg displacement, collision risk) are discussed in Section 24.4 of this Report. No further alternatives to the design of the Proposed Development have been proposed by the Applicant in light of the constraints discussed.
- 24.5.34. As addressed previously, NE considered that a 10km buffer between the Proposed Development and the OTE SPA was likely to avoid AEOI. However, this alternative has not been subject to an assessment of AEOI by NE or the Applicant and the Applicant's position has remained that a 10km buffer would render the Proposed Development unfeasible.
- 24.5.35. The ExA accepts that detailed site investigation work could provide information about site constraints that enables a greater MHWS clearance and/or the array area to be developed in a way that allows for a buffer greater than 2km to be implemented.
- 24.5.36. However, the ExA is clear that those further site investigations (which usually take place in the post-decision stage) have not been undertaken, and as a result it has not been possible for the Applicant to commit to further increases in the air-draught or buffer distance during the Examination. Given the rapidly changing intelligence on RTD displacement effects, which has led to changes in NE's advice on displacement distances since this project was in the pre-application stage, the ExA considers the Applicant's position in this regard to be a reasonable one.
- 24.5.37. No other alternative design has been assessed and therefore it is not known whether an avoidance of an AEOI could be achieved through a buffer somewhere between 2km and 10km, whilst also retaining a feasible and viable project. Consequently, the ExA's view is that there has been no compelling evidence presented that a feasible alternative solution currently exists which would have lesser adverse effects or avoid

AEOI on this or any of the sites considered (the OTE SPA, FFC SPA, and Alde-Ore Estuary SPA).

- 24.5.38. Should the SoS disagree with the ExA' reasoning in this regard, they may wish to seek further information or views on the question of whether an avoidance of an AEOI on the affected sites could be achieved through an alternative design with regard to air-draught height and the distance between the SPA and the Proposed Development, whilst also retaining a feasible and viable project.

24.6. IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST (IROPI)

- 24.6.1. The need for the Proposed Development is discussed in Chapter 5 of this Report. This section addresses the examination of the IROPI test under the requirements of the Habitats Regulations.
- 24.6.2. The Applicant's derogation case [REP12-059] included a case for the need of the Proposed Development and a discussion of why, in the Applicant's view, the reasons for the project were imperative, overriding, and in the public interest. The Applicant's derogations case set out the Applicant's reasoning based on the stated social and economic benefits of the Proposed Development and its contribution to tackling climate change.
- 24.6.3. The Proposed Development will not adversely affect any qualifying features that are priority habitats or species [APP-043] (as identified in the Habitats Regulations) and therefore the consideration of IROPI can include consideration of social and economic reasons [REP12-059].
- 24.6.4. The ExA asked the Applicant to expand on aspects of its case for IROPI at ISH3 [EV-046, EV-047] and in Q2.2.8 [PD-030]. This question also asked for comment on the justification that the reasons were overriding, including whether these reasons could be affected by the discussions and disagreements around the predictions of effects of the Proposed Development and conclusions of no AEOI on any of the European sites considered. The Applicant provided a response in [REP6-061] setting out how it anticipated the Proposed Development would contribute to the 2030 target for offshore wind and its role in addressing the influence of climate change. The Applicant stated that it considered that minor changes to the assessments of AEOI would not influence the rationale for IROPI presented and that climate change is anticipated to be the strongest influence on seabird populations in coming years. In response to the ExA questions [PD-030], and [PD-034] with respect to the influence of climate change on seabird populations, NE [REP6-116] and [REP8-166] advised that given its organisational remit it does not comment on IROPI.
- 24.6.5. At ISH 14, the Applicant was asked to consider whether its position on IROPI would alter if the starting point was an acceptance of AEOI. In the Applicant's response to the ISH Action Points [REP8-093] and its updated derogations case at [REP6-044, REP8-088, REP11-069 and REP12-059] it

set out its belief that if the SoS was to conclude that there were AEOI for any of the SPA sites, that *"there is a demonstrable overriding public interest in the Project and the policy objectives it would serve, which outweigh the risk of any adverse impact on each site."* The Applicant also stated in Section 7, Summary, of that document that following engagement with Interested Parties and consideration of their Relevant Representations, there was no change in its position of no AEOI stated at the time of the application.

- 24.6.6. As identified above, the case for Development Consent is addressed in Chapter 5 of this Report, which concludes that there is a compelling need for the Proposed Development. The ExA is in no doubt that there is an immediate need to increase energy supply from renewables. Taking into account the information surrounding the need for the Proposed Development, the public interests presented and the case that the interests are overriding when measured against the adverse effects on offshore ornithology, the ExA is of the opinion that IROPI for the Proposed Development have been demonstrated.

24.7. COMPENSATION MEASURES

- 24.7.1. Compensation measures³⁰ must ensure the overall coherence of the UK National Site Network. The Applicant [REP12-060] referenced EC 2012 guidance, which states that compensation measures should:

- Fulfil the same purpose that motivated the site's designation;
- Fulfil the same function along the same migration path where applicable; and
- Be accessible to the birds affected.

- 24.7.2. It is recognised that like for like compensation may not be possible but that measures must compensate for adverse effects on the site's conservation objectives.

- 24.7.3. The Applicant submitted its without-prejudice derogations case at D3 [REP3-053], which was accompanied by a 'Compensatory Measures' document [REP3-054]. The Applicant's HRA Derogations Case at D3 [REP3-053] did not include information relating to the OTE SPA or the FFC SPA qualifying features of guillemot and razorbill, the Sandlings SPA, or the SNS SAC. These omissions were explored by the ExA through written questions [PD-030] and [PD-034] and confirmed by the Applicant [REP6-061] and NE [REP8-166, REP8-167] that this was because agreement was likely to be reached on no AEOI. NE also confirmed [REP8-165] that it did not consider that compensatory measures were required for any other bird species which forms part of FFC SPA seabird assemblage, aside from kittiwake, gannet, guillemot and razorbill. The RSPB, however, expressed the view that the seabird assemblage of the

³⁰ The Conservation of Habitats and Species Regulations 2017 (as amended) refers to these measures as 'compensatory measures'. As both descriptions were used throughout the Examination with the same meaning, they are also used interchangeably here

FFC SPA should also be included due to in-combination effects [REP8-171].

- 24.7.4. NE commented at D5 [REP5-082] in response to [REP3-054] that its view was that "... a complete, detailed, deliverable, and secured compensation package must be provided during the examination phase to provide the required confidence to the Secretary of State that the measures are feasible and likely to prove effective." NE provided further comments against subsequent submissions at [REP7-071], [REP9-065], and [REP12-089].
- 24.7.5. A key theme of comments from IPs was that the proposed compensation measures were not sufficiently detailed and must be developed further prior to the decision-making stage, and that it is not appropriate to rely on post-examination consultation. This position was held throughout the Examination by NE [REP13-048] and was supported by the RSPB [REP4-097], [REP8-171], [REP9-071] and [REP10-054].
- 24.7.6. Comments applicable to each of the measures within the Applicant's compensation proposals from NE and the RSPB related to the scope of the measures, timing of implementation, and how they should be legally secured. The MMO also commented [REP8-156] on the means for securing any compensatory measures, advising that it deferred comment on the appropriateness of any measures to NE.
- 24.7.7. Both NE and the RSPB advised in their submissions that robust quantification of effects is necessary prior to identifying the nature and magnitude of compensation [REP7-071, REP11-127]. NE noted the use of mean/central predictions of impacts and advised that compensation should be designed using a range-based approach, with compensation based on the upper 95% estimates of mortality to avoid compensation falling short of actual impacts [REP7-071]. All of these matters are discussed in more detail in the remaining sections of this Chapter.
- 24.7.8. The Applicant maintained its position that there would be no AEOI on any sites or features through the Examination, but nevertheless continued to explore compensation measures for the OTE SPA, and the relevant features of the FFC SPA and the Alde-Ore Estuary SPA and Ramsar. The Applicant submitted updated information entitled 'Offshore Ornithology Without Prejudice Compensatory Measures' at D6 [REP6-045] which was further updated throughout the Examination in response to submissions from IPs, ExA questions and ongoing work with stakeholders [REP8-089, REP11-071, and REP12-060]. The updated documents included possible compensation measures relating to kittiwake, guillemot, gannet, razorbill (all FFC SPA), LBBG (Alde-Ore Estuary SPA and Ramsar), and RTD (OTE SPA).
- 24.7.9. Table 24.5 (below) details the measures that were explored through the Examination for each site and qualifying feature. These measures are discussed in more detail in subsequent sections of this Chapter.

Table 24.5: Proposed compensation measures applicable to affected qualifying features (at end of Examination)

Site and qualifying feature	Proposed Compensation [REP3-054 to REP12-060]	Discounted measures
All sites and qualifying features	Prey availability through fisheries management	
Alde – Ore Estuary SPA and Ramsar		
Lesser black-backed gull	Predator control through fencing of existing nest sites By-catch reduction and funding for fishing gear change	Fisheries management discounted as of low benefit to this species
Flamborough and Filey Coast SPA		
Gannet	Construction of artificial nest sites By-catch reduction and funding for fishing gear change	Nest site plastic waste removal
Kittiwake	Construction of artificial nest sites	Applicant discounts prey enhancement and predator control By-catch reduction and funding for fishing gear change not proposed for this species
Guillemot	Rat eradication from existing island colonies (other locations than at FFC SPA) By-catch reduction and funding for fishing gear change	Applicant discounts strategic level fisheries management
Razorbill	Rat eradication from existing island colonies (other locations than at FFC SPA) By-catch reduction and funding for fishing gear change	Applicant discounts strategic level fisheries management

Site and qualifying feature	Proposed Compensation [REP3-054 to REP12-060]	Discounted measures
Outer Thames Estuary SPA		
Red-throated diver	Vessel / navigation management 'removal of anthropogenic pressures within the SPA'	By-catch reduction not considered relevant measure for this species

All sites and qualifying features

Prey availability via fisheries management

Issues

- 24.7.10. The Applicant's compensation measures documents reported an initial screening exercise of potential compensation measures and the feedback gained from the RSPB and NE in September 2020 [REP3-054] and subsequent versions up to [REP12-060]. An initial measure that was considered and reported on at D3 [REP3-054] as being of benefit to all seabirds was prey enhancement through fisheries management. At this screening stage, the Applicant had concluded that this was not a deliverable measure and the RSPB concurred. However, NE requested that it was a measure that should be given further consideration as a strategic option rather than project-specific measures, highlighting that this may be the most ecologically effective approach albeit a challenging one [REP7-071]. Advice from the RSPB supported the position that prey enhancement would be of benefit but would not be within the control of the Applicant [REP4-097]. The Applicant maintains that while there could be substantial benefits from this measure, it was under government control and thus not a developer-led option. The Applicant re-stated this position at D6 in its Offshore Ornithology Without Prejudice Compensation Measures Annex 1 [REP6-046].
- 24.7.11. The ExA explored this matter in [PD-034], requesting comment from NE on relevant examples of compensation measures. NE responded that no examples were available but that its advice was based on wider ecological understanding that improving bird productivity would compensate for mortality [REP8-166].
- 24.7.12. At D8, the Applicant updated its Offshore Ornithology Without Prejudice Compensation Measures document [REP8-089] following further research and consultation with Defra on prey availability compensation measures. The Applicant stated in this document that Defra had confirmed the Applicant's position that fisheries management is not a viable project-led approach. The Applicant also provided comments on the March 2021 publication of the RIES [REP8-094], clarifying (with reference to [REP3-054] and [REP4-097]) it's understanding that NE wanted prey enhancement retained as an option but that it and the RSPB agreed it was not a viable option for delivery by an individual project.

- 24.7.13. NE provided comments on the Applicant's document [REP6-046] at Deadline 10 [REP10-051]. NE acknowledged the challenges associated with this measure but maintained that the option should be considered because of the potential for ecological benefits and the absence of viable alternative measures. NE supported a strategic approach and advised the Applicant to continue exploring this measure and discussing it with relevant stakeholders and government. Specific comments on the content of [REP6-046] were also provided by NE in [REP10-051]. The ExA asked the Applicant to respond to this in ExAQ3, 3.2.19. In its response the Applicant agreed with the potential benefits of prey availability measures, but with reference to [REP6-046], stated that a practical means of delivery had not been possible to establish [REP11-088].
- 24.7.14. In response to this point, the Applicant confirmed at D13 [REP13-015 and REP13-016] that it had resumed discussions on compensation with the Norfolk Boreas project to ensure that compensation measures could be delivered. However, the Applicant maintained that any measures seeking to increase prey availability through fisheries management needed to be Government-led.
- 24.7.15. The ExA asked NE about the realistic prospect of a strategic approach within the period necessary for commencement of the Proposed Development, and advice on how developers could progress [PD-049, ExQ3.2.20]. NE responded that it was aware options are being considered outside of the Proposed Development, that developers could contribute to in the future and therefore advises the option to do so was retained for the Proposed Development [REP11-123]. This is reflected in its final advice in [REP13-048].
- 24.7.16. The Applicant's closing position was that measures to enhance prey availability were not appropriate for inclusion in its compensation package [REP12-060].

ExA response

- 24.7.17. The ExA has considered all of the submissions in relation to measures to enhance prey availability via fisheries management. It is clear that these measures have the potential to benefit several relevant seabird species, which are dependent on the fished stocks. However, the ExA agrees with the Applicant's position that fisheries management is under Government control and it is therefore unrealistic to expect that the Applicant currently has it within its gift to deliver this measure. The ExA notes the Applicant's exploration of the option of effectively 'buying' fishing quota [REP6-046] and considers that the Applicant's finding that this is not technically feasible in this case to be reasonable. For these reasons, the ExA accepts the Applicant's reasons for excluding measures to enhance prey availability via fisheries management from its compensation package.

By-catch reduction

Issues

- 24.7.18. The D8 version of the Applicant's compensation measures [REP8-089], introduced consideration of ornithological fisheries by-catch for the East Anglia region and, dependent on the outcome of the research, described measures to reduce by-catch including funding for a fishing gear change scheme. The Applicant considered that this measure would be most relevant as a compensation measure to LBBG, gannet, guillemot and razorbill. The Applicant reasoned that while considered potentially beneficial for RTD by reducing mortality, the potential AEOI related to displacement and therefore by-catch as a compensation measure was less relevant.
- 24.7.19. NE provided a response to the updated Ornithology Compensation Measures document [REP8-089] in Appendix A15c [REP9-065]. NE advised that implementation of by-catch reduction measures that would benefit FFC SPA populations closer to the colony itself would be needed. NE also expressed uncertainty over whether measures relating to by-catch could be considered as 'additional' given known strategic work by Defra and JNCC in this area. The RSPB echoed this view to some extent and provided information at D9 on its UK and International project work in mitigating seabird by-catch and advice on how the effectiveness of measures could be maximised. The Applicant drew attention to section 11.6 of [REP8-089] which sets out how the proposed measures sit within the context of the UK Seabird Plan of Action for 2020/21 [REP10-017].
- 24.7.20. The RSPB position at D9 was that, as described, the proposals would not be likely to be effective due to unrealistic timescales and that it considered the geographic area proposed to be inappropriate. It did however consider the logic of the Applicant's approach to refining its measures to be sound [REP9-071]. The Applicant responded at D10 emphasising that the location of the proposals was chosen for practical reasons given its parent company presence in the region (Scottish Power Renewables), and that other areas may be possible. The Applicant acknowledged RSPB's expertise in this area and the need to continue discussions and provided responses to RSPB's detailed comments on by-catch [REP10-018].
- 24.7.21. The RSPB responded [REP11-126], summarising its concerns regarding evidence for benefit, the timeframes needed to identify specific options and implement them, choice of geographical area, and the absence of reliable contextual data. It stated that its position had not changed and provided advice on engagement between the Applicant and Defra regarding the UK Seabird Bycatch Plan of Action, so that any further work undertaken could be aligned [REP11-126].
- 24.7.22. The Applicant's final position was to include ornithological by-catch as a secondary measure in its without prejudice compensation measures document [REP12-060] and its final dDCO [REP12-013] for gannet, guillemot, razorbill and LBBG. Appendix 7 of [REP12-060] sets out the

Applicant's analysis in terms of the delivery and feasibility of this measure.

ExA response

- 24.7.23. The ExA's consideration of the proposed by-catch reduction measures is set out in respect of the relevant sites and qualifying features in the subsequent sections of this Chapter.

Alde-Ore Estuary SPA and Ramsar

Predator Control/Exclusion for LBBG

Issues

- 24.7.24. In [REP7-071] in response to the Applicant's proposed compensation measures, NE agreed that fencing to exclude predators was an acceptable measure in relation to LBBG. RSPB agreed that this may be possible but considered it was unlikely to be sufficient in isolation [REP8-171].
- 24.7.25. NE advised at D9 and at D12 [REP9-065] that it had been exploring a strategic project with Defra and local landowners for LBBG within the Alde-Ore Estuary SPA and Ramsar. In its representations at D12 [REP12-089], however, NE advised that this project had met with several challenges that meant it was unlikely to make progress as a potential compensation measure during the consenting timescales for the Proposed Development or for any other offshore windfarm projects.
- 24.7.26. The RSPB expressed the view that predator exclusion in relation to LBBG could not be considered additional to necessary site management [REP4-097, REP8-171], a view not supported by NE [REP9-065]. The ExA asked the RSPB in ExQ2.2.10 [PD-030] to provide more detail on the delivery of this measure as part of site management, however the RSPB did not supply a response.
- 24.7.27. NE noted that the locations proposed for LBBG are already designated as SAC or SSSI and that the proposed compensation measures should not therefore interfere with the existing management and features of those sites [REP12-094].
- 24.7.28. The Applicant also noted [REP12-061] that the detailed designs of any measures would require, under Schedule 18, that the measure was "appropriate ecologically and likely to support successful compensation". The Applicant maintained that this would ensure that the choice of measure would have to take account of the condition of the site and its existing management as part of any consideration of compensation.
- 24.7.29. RSPB also referred back to its response in [REP4-097] in terms of alternative measures not explored by the Applicant. The Applicant responded to this point in [REP9-020]. NE requested more detail in [REP9-065]. The Applicant maintained [REP10-017] that the compensation measures were adequately described and secured given

the low numbers of birds affected and the need to retain flexibility for future refinements. The ExA notes the Applicant's estimate of 50.1 to 55.5 birds subject to in-combination mortality, of which the Proposed Development would contribute 3% (based on a mean of 1.6 and 95% confidence interval of 0.4-3.7) [REP12-060].

- 24.7.30. The RSPB in [REP8-090] commented that this strategic option could not be relied upon for the purpose of the Examination as no legal mechanism to secure it had been presented [REP9-071]. The Applicant stated in [REP10-018] that it considered Schedule 18 to be flexible enough to allow for strategic working.

ExA response

- 24.7.31. The LBBG colony of the Alde-Ore Estuary SPA is subject to high levels of egg and chick predation. Therefore, the fencing of an area to prevent the predation of nests, particularly from foxes, would help to increase the numbers of breeding LBBG³¹. Orford Ness was given as an example of a possible location where an area of 'New Zealand' style fencing could be erected [REP12-060]. The submitted evidence indicates that the provision of predator-proof fencing is a well-established and proven intervention that has a high likelihood of increasing the population numbers of LBBG that nest within its confines [REP12-060].
- 24.7.32. The ExA notes that predator proof fencing can be costly to install and has ongoing maintenance costs. The Applicant's cost estimate for a square of fencing with 200m sides was £80,000 to construct with annual maintenance costs of £800 [REP12-060]. The ExA considers it unlikely that such monies would be spent as part of the ongoing management of a site such as Orford Ness within the given timeframe. As such, it is the ExA's view that it is reasonable to consider that this would represent an additional compensation measure rather than a general site management measure.
- 24.7.33. Schedule 18 Part 5 of the Applicant's final dDCO [REP12-013] specifically references the work of the LBBG compensation steering group (LBBCSG) in preparing the LBBG implementation and monitoring plan (LBBIMP) for submission to (and approval by) the SoS, in consultation with the SNCB, MMO and relevant Local Planning Authority. The ExA notes that under the provisions of Schedule 18, no wind turbine forming part of the authorised development may begin operation until the implementation of the measures set out in the approved LBBIMP.
- 24.7.34. Taking this, together with the compensation measures document [REP12-060] which is a document to be certified under Article 36 of the rDCO, the ExA is content that the proposed compensation measure of providing predator proof fencing for LBBG is adequately secured.

³¹ In [REP12-060] a number of examples of the use of predator proof fencing to protect seabirds from mammal predation were cited.

- 24.7.35. For the reasons that are discussed in more detail below in relation to gannet, the ExA considers that the secondary compensation measure of the proposals in regard to by-catch, as set out in Appendix 7 of [REP12-060], would also have the potential to be of some benefit to the LBBG population of the OTE SPA. Furthermore, the ExA considers that these measures are adequately secured in the rDCO via Part 5, 3(f) of Schedule 18.
- 24.7.36. Taking all of this into account, the ExA concludes that the proposed compensation measures for LBBG of the Alde-Ore Estuary SPA would be appropriate, deliverable and proportionate so as to compensate for the AEOI identified above and ensure the overall coherence of the UK National Site Network.

Flamborough and Filey Coast SPA

Plastic waste removal for gannet

Issues

- 24.7.37. The Applicant considered plastic waste removal from existing gannet nests and chicks as a compensation measure. The premise was that gannets occasionally become entangled in plastic waste and die [REP12-060]. The RSPB highlighted the practical difficulties in adopting this as a compensation measure and commented that only a small level of mortality is known to arise from plastic waste meaning the evidence of benefit to the population is limited [REP9-071]. NE supported the concerns of the RSPB regarding removal of plastic waste to reduce gannet mortality [REP9-065].
- 24.7.38. In response to the comments from NE and the RSPB, the Applicant stated that while this measure was not proposed as part of the compensation measures, it had included plastic waste removal as a line of enquiry for the future [REP10-017, REP10-018].
- 24.7.39. The Applicant's final compensation document [REP12-060] acknowledged that plastic waste removal could be achieved on a small scale, but that it was potentially difficult to achieve safely and without disturbance to birds. Its submission therefore focussed on the potential for establishing a new artificial nesting site for gannet, as discussed below.

ExA response

- 24.7.40. The ExA notes the Applicant's findings that there is currently insufficient certainty about this measure for it to be taken forward as a compensation measure. The measure is not referred to in Schedule 18 of the dDCO [REP12-013]. On the basis of the submissions, the ExA accepts that this is an appropriate approach.

Artificial nesting sites for gannet

Issues

- 24.7.41. The artificial nesting site proposal for gannet would provide space for a colony of approximately 175 pairs (based on an estimate of the numbers of fledglings each pair would produce and would likely survive to reach breeding age at 5 years) and to address the predicted 13.8 mean (95% confidence interval 5.3-26.2) annual adult mortalities that the Proposed Development would contribute to the in-combination total, from collision. Mortality from displacement is not discussed in the Applicant's compensation measures document as part of the contribution to mortality [REP12-060]. However, the Applicant's Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Update [REP13-019] states an annual displacement abundance of 246.7 (in-combination total including H4, DEP and SEP is stated as 10,212.4) which would equate to 24 birds at a 10% mortality rate. Of the total, this would be a contribution of 2.4% to the in-combination displacement mortality, using the Applicant's information.
- 24.7.42. No further details were provided on potential locations or design, as the Applicant's report suggested that the need to have a suitable site constructed and colonised five years before windfarm operation was of a lower priority for gannet, as the levels of predicted mortality contributed by the Proposed Development are small (4-4.9% of in-combination total for collision and 2.4% for displacement) and could be recouped within the first two years of its operation [REP12-060]. However, the Applicant's report [REP12-060] cited examples worldwide where behavioural attraction methods were used to establish gannet population at artificial nest sites with variable success and high costs.
- 24.7.43. NE [REP7-071, REP13-048] and RSPB [REP8-171] both noted that they did not believe the evidence put forward by the Applicant demonstrated whether artificial nesting sites would be successful for gannet. Both parties also submitted that they believed more specific information was required on the exact locations and designs. The Applicant's position was that the siting, design and monitoring of potential artificial sites for gannet could be achieved at a later date. This would be developed and secured through establishment of a steering group, comprising relevant stakeholders, post-consent.
- 24.7.44. NE noted that the proposal of a steering group alone was not sufficient to ensure governance of the measures, the RSPB noting there were reservations about the practical and legal means of this working. The Applicant [REP10-018] maintained the position set out in [REP8-090] in its response to these comments.

ExA response

- 24.7.45. The Applicant's compensation measures document proposed that artificial nest sites would be provided for gannet, although the full details of these have not yet been determined. The track record for the successful establishment of gannet colonies on artificial sites is much more limited

than for kittiwake and with mixed results, with more attempts being unsuccessful than successful³².

- 24.7.46. Consequently, the ExA recognises that there would be the real possibility that gannet artificial nesting sites would not be successful at all or that the numbers of birds benefitting from the sites would be limited. However, the ExA is mindful that the Proposed Development would make a relatively modest contribution to the in-combination mortality totals for gannet. Artificial nesting sites for gannet are a relatively untried technique and whilst not determinative in this case, the ExA attaches weight to the fact that the proposed compensation measures would add to the sum of knowledge in this field.
- 24.7.47. In terms of the feasibility and deliverability of the proposed artificial nesting sites, the ExA notes the concerns raised by NE and the RSPB about a lack of specific details. However, the ExA has not been presented with any evidence to indicate that it would not be possible for the Applicant to identify suitable locations and obtain the necessary rights. The Applicant has indicated [REP12-060] that a platform 10m to a side would be required and potential areas of search for the installation of artificial nesting site(s) include the Suffolk and Norfolk coasts. Based on these parameters it seems reasonable to consider that a suitable location could be identified for such a structure, agreement reached with the landowner and necessary consents and permits achieved. Therefore, the ExA considers that in this instance, the provision of artificial nesting sites(s) for gannet would be a suitable, feasible and deliverable primary compensation measure.
- 24.7.48. The ExA's consideration of gannet compensation also takes into account the Applicant's commitment to the secondary measure in respect of ornithological by-catch. Appendix 7 of [REP12-060] explains that this would entail cross-cutting measures regarding co-ordinating research and monitoring of by-catch and funding improvements in fishing gear and associated equipment to reduce by-catch. These measures have the potential to be of benefit to gannet by reducing the potential for birds to be caught by fishing gear, for example by funding research or a voluntary gear change scheme.
- 24.7.49. The ExA recognises that Actions 1 to 5 as set out in Appendix 7 of [REP12-060] would require input from other parties such as the fishing industry and academia. However, the ExA acknowledges the Applicant's track record in participating in working groups such as the Offshore Wind Strategic Monitoring Research Forum, which gives confidence that the proposed Actions 1 to 5 would be deliverable.
- 24.7.50. Having considered the evidence, the ExA's view is that the by-catch proposals would be more of a pump-priming measure, with any beneficial impacts being longer-term and difficult to quantify at this stage.

³² Successful and unsuccessful cases for Australasian gannet in New Zealand and also unsuccessful cases for northern gannet in Canada have been cited in [REP12-060].

Nevertheless, the proposed by-catch research and funding does have the potential to provide a catalyst for change that would ultimately provide additional benefits for gannet, beyond those provided by the primary compensation measure that has been proposed. It is the ExA's view that this should be considered as an additional benefit in the package of compensation measures for gannet.

- 24.7.51. A further consideration in the ExA's deliberations is the provision in Article 3(d) of Schedule 18 Part 2 for the identification of alternative compensation measures and/or adaptive management measures, should the proposed compensation measures fail to be successful. In the ExA's view, this provides a necessary safeguard to cover the eventuality that the relatively untested primary compensation measure does not have the intended effect.
- 24.7.52. In terms of security for the proposed compensation, Schedule 18 Part 2 of the dDCO [REP12-013] specifically references the work of the gannet compensation steering group (GaCSG) in preparing the gannet implementation and monitoring plan (GaIMP). The GaIMP provides for a dispute resolution mechanism. The rDCO provisions stipulate that the authorised development must not commence until guarantees are in place in terms of funding for the compensation and that no turbine may begin operation until the GaIMP has been approved by the SoS. Schedule 18 Part 2 3(f) refers to details of the work in respect of ornithological by-catch measures.
- 24.7.53. Taking all of these things together, the ExA is content that Schedule 18 Part 2 of the rDCO adequately secures the provision, monitoring and adaptive management of the proposed gannet compensation measures that are set out in [REP12-060]. Consequently, it is the ExA's opinion that there are sufficient grounds to consider that the proposed compensation measures would adequately compensate for the identified AEOI on the gannet population of FFC SPA as a result of the Proposed Development in-combination with other plans and projects.
- 24.7.54. Therefore, the ExA concludes that the proposed compensation measures for gannet would be appropriate, deliverable and proportionate to ensure the overall coherence of the UK National Site Network.

Artificial nesting sites for kittiwake

Issues

- 24.7.55. NE requested more detail regarding design and implementation of the proposals for artificial nest sites for kittiwake (FFC SPA) [REP9-065]. The RSPB had also commented at D4 [REP4-097] and Deadline 8 [REP8-171] supporting NE D7 comments [REP7-071] that it believed insufficient evidence had been provided to give confidence that the proposals would be successful. The Applicant responded to NE's comments with its position that the compensation measures were adequately described and secured given the low numbers of birds affected and the need to retain flexibility for future refinements [REP10-017].

- 24.7.56. In response to the RSPB's comments the Applicant stated that ample evidence existed to give a high confidence that this measure would be successful. The Applicant went on to state that identification of locations, obtaining necessary rights, and implementation were considered achievable, and no further detail was considered necessary [REP10-018]. At D10 the RSPB referred to its previous comments that the evidence for success is equivocal [REP10-054]. The Applicant's response at D11 provided more justification for its position that while such measures have yet to be implemented as compensation in the context proposed, strong evidence exists that kittiwakes would use artificial nesting structures and that an increased productivity would result [REP11-055].
- 24.7.57. In its answer to Question 3.2.8 [PD-049] NE specifically requested that the Applicant demonstrates delivery of artificial nests at Lowestoft port [REP11-123]. The Applicant pointed to evidence from sites at Lowestoft harbour and the River Tyne where kittiwakes had readily used artificial nest sites and there was a measurable increase in the breeding success at both colonies. The Applicant's report also stated that there was evidence from these sites of higher kittiwake breeding success at artificial compared to natural nesting sites. It also notes that while there may be a 'mortality debt' while sites establish, that as the numbers of birds affected by EA2 were very low, they would most likely be compensated for within 1-2 years of the sites becoming operational.
- 24.7.58. NE in its response at D12 [REP12-089] maintained its position and reiterated that far more information on the specifics of the size, location, timing, and design of the compensation measures was needed. In addition, more definitive statements that deliverability on the ground had already been secured and adaptive management and monitoring was in place to review and amend the measures through their lifetime was needed.
- 24.7.59. The RSPB [REP12-095] agreed with the Applicant's evidence that artificial nesting sites often have more breeding success than natural sites but cautioned that this observed effect does vary and was dependent on several factors. For example, it cited several artificial sites that were not colonised at all or failed to reach their design capacity and pointed to the need to determine whether colonisation is a result of 'new' birds or merely displacement of existing populations of birds from other sites. It concluded that while the numbers of birds involved may be small, there remained uncertainties about the figures. It also believed that there was still not enough evidence demonstrated to show that there was a 'reasonable guarantee of success' that birds would both colonise and breed successfully at any given site before the compensation measures can be seen to be acceptable.

ExA response

- 24.7.60. The ExA is conscious that, at a predicted annual mean of 0.8 (95% confidence interval 0.38-1.4) collision mortalities, the contribution of the Proposed Development to the in-combination total apportioned to the

FFC SPA would be very small at 0.1 to 0.2%. Nonetheless, it is an AEOI for which compensation must be provided.

- 24.7.61. The Applicant has explored suitable compensation measures for kittiwake and has adequately justified its choice of the provision of artificial nesting sites. The Applicant has cited [REP12-060] a number of examples³³ of kittiwake colonies that have been established on artificial coastal structures. Potential locations for artificial nesting sites have been provided in [REP12-060].
- 24.7.62. Taking all of this into account the ExA concludes that the use of artificial nesting sites for kittiwake is well-established and would represent an appropriate technique that, if undertaken correctly, would be likely to have a degree of success in achieving its objectives.
- 24.7.63. The ExA notes the concerns that have been raised by NE and the RSPB regarding the level of detail and certainty over delivery. The ExA considers that Appendix 1 of the Applicant's final version of its Offshore Ornithology Without Prejudice Compensation Measures [REP12-060] provides a reasonable assessment of the feasibility and deliverability of the proposed kittiwake compensation measures. Consequently, it is the EXA's view that the provision of artificial nesting sites for kittiwake would represent an adequate compensation measure when set in the context of the predicted impact on the kittiwake population that would arise from the Proposed Development
- 24.7.64. Schedule 18 Part 1 of the dDCO [REP12-013] specifically references the setting up of a kittiwake compensation steering group (KCSG) and the production of a kittiwake implementation and monitoring plan (KIMP). The ExA is therefore satisfied with the wording of Schedule 18 Part 1 of the dDCO [REP12-013], which is adopted in the rDCO, in which the kittiwake compensation measures are secured.
- 24.7.65. Overall, the ExA concludes that the proposed compensation measures for kittiwake would be appropriate, deliverable and proportionate so as to ensure the overall coherence of the UK National Site Network.

Predator control for guillemot and razorbill (auks)

Issues

- 24.7.66. The Applicant's compensation measures document included proposed rat eradication (predator control) outside of the FFC SPA as a potential measure for the guillemot and razorbill qualifying features ([REP6-045] and updated [REP8-089] [REP11-071] and [REP12-060]). This followed consideration of fisheries management (for both guillemot and razorbill) and by-catch proposals (relevant for guillemot only). Those measures are discussed in earlier sections of this Chapter.

³³ For example [REP12-060] references Lowestoft harbour and two towers on the River Tyne.

- 24.7.67. The Applicant's report [REP6-045] cited evidence from Lundy Island where rat eradication led to an increase in numbers of breeding guillemot and breeding razorbill. In the updated versions of this document [REP8-89], [REP11-071] and [REP12-060], a list of potential sites where rat eradication had already been identified as a beneficial measure for conservation was also provided. The Applicant acknowledged that rats were not a significant predator of auks at FFC SPA, where both species nest on cliff ledges mostly inaccessible to rats. However, the Applicant noted that rat predation is a limiting factor to breeding auks at other SPA sites outside of FFC SPA and so rat eradication at other sites was taken forward as a potential compensation measure.
- 24.7.68. In response to [REP6-045], NE and the RSPB requested more detail regarding the location and demonstrable benefit of rat eradication for auk populations as a compensation measure [REP7-071, REP8-171]. The updated Offshore Ornithology Without Prejudice Compensation Measures document [REP8-089] included further detail of the effect of rat eradication on guillemot and razorbill. NE further advised that consideration of proximity of candidate sites to FFC SPA should be given and that evidence was needed around whether rat predation was a limiting factor for these species at FFC SPA [REP9-065]. The Applicant responded to NE stating its intention to carry out further analysis should the need for compensation be established, stating its confidence that a suitable site option exists [REP10-017].
- 24.7.69. The RSPB stated that the information did not establish whether rat eradication would be of benefit to guillemot or razorbill [REP9-071]. The Applicant responded that the detail was adequate and that discussions on the most appropriate location of these measures would continue should they be deemed necessary [REP10-018]. The RSPB did not add to its D9 comments on compensation measures for auks in its further representations.
- 24.7.70. As with the measures proposed by the Applicant for gannet and kittiwake, development and management of the proposed compensation measures for guillemot and razorbill would be through establishment of a steering group comprising relevant stakeholders, post-consent.
- 24.7.71. NE noted at D12 and D13 [REP12-089, REP13-048] that any onshore sites chosen for compensation should be fit for purpose and that proposed compensation measures should not interfere with management of the chosen sites. NE also registered their concern that too many details of the proposed measures were being left to the post-consent stage, and that the lack of detail surrounding the locations for rat eradication measures meant that it was unable to support this as a compensatory measure.

ExA response - guillemot

- 24.7.72. The Applicant has provided evidence that a rat eradication programme can be a successful measure³⁴ to increase guillemot breeding numbers. The ExA considers that this proposed compensation measure could have a beneficial impact on breeding guillemot numbers, although it is recognised that the potential island sites in Table 1 of Appendix 3 all lie some distance from the FFC SPA. However, it is reasonable to concur with the Applicant's view expressed in [REP12-060] that rat eradication, whilst not directly benefitting the FFC SPA, would benefit the guillemot meta-population thereby indirectly benefitting the FFC SPA since there is evidence that birds can be recruited into the FFC SPA colony from other colonies. The guillemot compensation steering group would be charged with identifying suitable locations for a rat eradication programme. This seems a reasonable approach and the ExA considers it feasible that suitable locations could be found.
- 24.7.73. The ExA considers that it is possible for a successful rat eradication programme to be developed that would benefit breeding guillemot numbers overall. In addition, the ExA concludes that it is likely that the successful implementation of such a programme would be of benefit to the guillemot colony at FFC SPA through indirect linkages. The predicted guillemot mortalities contributed to the in-combination total by the Proposed Development are small (0.2 to 0.3%) with there being 5 additional mortalities per year apportioned to the FFC SPA if NE's worst-case precautionary rates were applied. At such a low number of predicted mortalities for guillemot the outcomes for compensation measures to be successful would also be low. Consequently, the ExA accepts that the indirect beneficial impacts on the FFC SPA population that have been identified would be sufficient.
- 24.7.74. The ExA does not consider that monitoring would prove difficult as long as it was adequately funded. Furthermore, Schedule 18 Part 3 of the dDCO [REP12-013], which specifically references the work of the guillemot compensation steering group (GuCSG) in preparing the guillemot implementation and monitoring plan (GuIMP), would ensure that such measures are adequately secured and this provision has been adopted in the rDCO.
- 24.7.75. For the reasons that have already been discussed in more detail in relation to gannet, the ExA considers that the secondary compensation measure of the proposals in regard to by-catch, as set out in Appendix 7 of [REP12-060], would also have the potential to be of benefit to the guillemot population of the FFC SPA. Furthermore, the ExA considers that these measures are adequately secured in the rDCO via Part 3, 3(e) of Schedule 18.
- 24.7.76. Overall, the ExA concludes that the proposed compensation measures for guillemot of the FFC SPA would be appropriate, deliverable and

³⁴ In [REP12-060] it is noted that the breeding guillemot population on Lundy island increased from 2,348 to 6,198 individuals after the eradication of rats.

proportionate so as to ensure the overall coherence of the UK National Site Network.

ExA response – razorbill

- 24.7.77. The arguments regarding the proposed compensation measures for razorbill are broadly similar to those for guillemot since rat eradication programmes have also been demonstrated to improve the conservation status of razorbill³⁵. The contribution of the Proposed Development to the predicted in-combination displacement mortalities for razorbill apportioned to the FFC SPA would be very small, with a predicted figure of 0.9 birds per year (0.2% of in-combination total).
- 24.7.78. Schedule 18 Part 4 of the dDCO [REP12-013] specifically references the work of the razorbill compensation steering group (RCSG) in preparing the razorbill implementation and monitoring plan (RIMP). The ExA is content that the proposed compensation measures for razorbill are adequately secured in the rDCO.
- 24.7.79. For the reasons that have already been discussed in more detail in relation to gannet, the ExA considers that the secondary compensation measure of the proposals in regard to by-catch, as set out in Appendix 7 of [REP12-060], would also have the potential to be of some benefit to the razorbill population of the FFC SPA. Furthermore, the ExA considers that these measures are adequately secured in the rDCO via Part 4, 3(e) of Schedule 18.
- 24.7.80. Overall, the ExA concludes that the proposed compensation measures for razorbill of the FFC SPA would be appropriate, deliverable and proportionate to ensure the overall coherence of the UK National Site Network.

Outer Thames Estuary SPA

Vessel/navigation management for RTD

Issues

- 24.7.81. The Applicant's initial proposed compensatory measure for RTD, navigation management, was described in [REP3-054]. This was expanded on in [REP6-045] and [REP8-089] to include the Applicant's consideration of other potential compensatory measures: the provision of nesting rafts; closure of sandeel and sprat fisheries close to wintering areas, breeding areas or generally UK waters; and the prevention of oil spills. The Applicant ruled out all three potential measures for reasons set out in section 10.4.1 of [REP6-045]. The only proposed compensation measure for effects on RTD considered to be feasible and potentially effective is vessel navigation management of existing shipping lanes and those related to East Anglia Three Offshore Wind Farm.

³⁵ In [REP12-060] it is noted that the breeding razorbill population on Lundy island increased from 950 to 1,735 individuals after the eradication of rats.

- 24.7.82. At D5 [REP5-082], NE suggested that the Applicant should also consider removal of existing wind turbines from within the OTE SPA. The Applicant responded that this was not considered to be feasible due to the difficulty in securing such agreements due to the very high amount of financial reparation which would be needed and the fundamental incompatibility with the 2030 target for offshore wind delivery [REP6-061].
- 24.7.83. NE did not agree that vessel management represents a compensation measure for displacement effects, advising that vessel management should be considered a mitigation measure and is captured in the BPP for RTD at a project-level [REP7-071]. The Applicant responded to NE [REP8-049] and to similar points made by the RSPB [REP9-020] stating that it considered it to be a practical measure in addition to mitigation and that the BPP does not include for control of vessels at EA3.
- 24.7.84. NE did not agree that the Applicant's proposed vessel management for RTD (OTE SPA) represented a compensation measure for displacement caused by the presence of WTGs. It also advised that vessel navigation management in relation to EA3 was unlikely to be sufficient, given that the magnitude of vessel impacts arising from that development was deemed at the point of decision to not result in AEOI on the OTE SPA [REP7-071] [REP9-065]. The RSPB [REP8-171] supported NE's Deadline 7 comments. In [REP9-016] the Applicant highlighted updated information with reference to Section 10.4, Appendix 6 of [REP8-089], which presented arguments for the appropriateness and effectiveness of this measure. These arguments were revisited by the Applicant at [REP10-017].
- 24.7.85. In its response to ExQ3 [PD-049] NE maintained its position that the proposed compensatory measures were not appropriate to address the likely impacts of displacement from the presence of WTGs and that mitigation by way of increasing the distance between the Proposed Development and the OTE SPA to avoid AEOI should be implemented [REP11-123].
- 24.7.86. The ExA also explored the evidence provided on quantification of effects on RTD in ExQ3 [PD-049] by asking the Applicant to clarify this information presented in [REP8-089]. The Applicant provided a response in [REP11-088]. NE also responded to this question advising that the quantification of effect should be in terms of the impacts on the OTE SPA conservation objectives. As set out in this Report, there remained disagreement on the quantification of effects on RTD and the consequences for the OTE SPA conservation objectives (see Section 4) which is a fundamental consideration for the design and delivery of any compensation measures.

ExA response

- 24.7.87. At the close of the Examination there was disagreement between the Applicant and NE/RSPB as to the likely effectiveness of the proposed compensation measure of navigation management. Having heard the evidence, the ExA is of the view that navigation management measures

should form part of the mitigation for the Proposed Development and the other East Anglia project.

- 24.7.88. However, the East Anglia THREE (EA3) OWF project does not have such measures secured within its made DCO in regard to vessel movements. The ExA is content that this would be an additional measure that would go beyond the requirement of the DCO for EA3. Consequently, the ExA considers that navigation management can legitimately be considered to represent a compensation measure rather than mitigation.
- 24.7.89. The ExA is content that the Applicant and its parent company, ScottishPower Renewables, have control over the management of vessels for the Proposed Development, the other East Anglia project and for EA3. Therefore, it is the ExA's opinion that this measure would be deliverable by the Applicant.
- 24.7.90. As regards effectiveness of the proposed navigation management, the ExA has no reason to disagree with the Applicant's analysis that operational vessel traffic would average approximately 11 vessel movements per day [REP12-060]. The Applicant has calculated that EA3 operation and maintenance vessel movements would account for approximately 5% of the total annual vessel movements through the OTE SPA. Although the displacement effects arising from vessel movements, might only be temporary in nature for each passing vessel, nevertheless they would occur with a reasonable degree of regularity throughout each day. Figures 10.1 and 10.2 of [REP12-060] demonstrate that the re-routing of vessels from the ports of Great Yarmouth and Lowestoft would significantly reduce the area of the OTE SPA that would be traversed.
- 24.7.91. The contribution of the Proposed Development to the predicted in-combination displacement mortality total of 143 birds apportioned to the OTE SPA would be 0.6 birds per annum at a precautionary 10% mortality rate. The ExA considers that a reduction in EA3 vessel movements during the key breeding months would be likely to provide an acceptable reduction in the amount of RTD mortalities arising from disturbance and displacement. The ExA also considers that this measure is likely to adequately alleviate adverse effects of the Proposed Development in the form of effective habitat loss resulting from the presence of the wind farm itself.
- 24.7.92. Schedule 18 Part 6 of the dDCO [REP12-013] specifically references the work of the RTD compensation steering group (RTDCSG) in preparing the RTD implementation and monitoring plan (RTDIMP). Part 6 stipulates that the authorised development must not be commenced until a guarantee for the funding of the compensation measures has been approved and that no tower comprised within a wind turbine may be installed until the compensation measures have been implemented. The ExA considers this necessary in light of the nature of displacement effects in relation to RTD. Overall, the ExA considers that the approach in Schedule 18, Part 6 would provide a sufficient degree of certainty whilst also retaining

sufficient flexibility to adapt to any changes arising for example as a result of monitoring.

- 24.7.93. Taking all of this into account, the ExA concludes that the proposed compensation measure of navigational management for EA3 vessels would be feasible, deliverable and would give rise to a sufficiently beneficial impact to compensate for the identified AEOI on the RTD population of the OTE SPA. The ExA therefore concludes that this would represent an appropriate compensation measure in relation to ensuring the overall coherence of the UK National Site Network.

Level of detail on compensation measures

- 24.7.94. The ExA explored IP requests for greater detail on compensation proposals in ExQ3 [PD-049, 3.2.8, asking NE and the RSPB to provide specific comment. NE responded in [REP11-123] providing advice on the detail required, including design, location, evidence of deliverability, evidence of landowner and other legal agreements, clear aims and objectives and mechanisms for adaptive management, timescales for implementation, and approvals and governance. NE also advised that more detail was needed regarding compensation measures' locations, to ensure they were fit for purpose in terms of existing management and any other proposals/plans in relation to them that could hamper the delivery of compensation within the necessary timescales and over the lifetime of the project. This advice was restated in [REP13-048].
- 24.7.95. The RSPB responded to ExQ3 with reference to its general position adopted for H3 and a list of common and species-specific requirements considered advisable to secure prior to consent [REP11-127]. The Applicant responded, maintaining its position that sufficient detail has been provided to allow the SoS to discharge their duties as competent authority [REP11-088]. Nevertheless, it provided an updated Appendix 1 and Appendix 5 to its Offshore Ornithology Without Prejudice Compensation Measures document [REP11- 071] to address comments related to strategic delivery alongside Norfolk Boreas Ltd. of compensation measures for kittiwake (FFC SPA) and LBBG (Alde-Ore Estuary SPA and Ramsar).
- 24.7.96. By the close of the Examination, NE maintained its concerns about the level of detail that had been provided in relation to the compensation measures. In [REP12-089], NE set out a list of matters that it considered a fully comprehensive compensation package should provide. The Applicant's response, for example in [REP13-015], demonstrated that there is a clear difference of opinion between the parties on this matter. In effect, the ExA is faced with considering the balance between a need for certainty against a need for flexibility.
- 24.7.97. The ExA considers that in [REP12-060] the Applicant has provided a reasonable level of detail about the design of the proposed measures. The ExA acknowledges that detailed specifics about the precise number and location of artificial nesting sites and rat eradication programmes have not been provided.

- 24.7.98. In the ExA's view that there is no requirement for absolute certainty in the form of compensation measures and that it would not be proportionate or realistic to hold this expectation from the level of detail provided by the Applicant in this case. The level of detail provided as part of this Examination (or to be incorporated in a made DCO) does not need to be exhaustive in order to conclude that the compensation measures can be fit for purpose, if the DCO ensures that, as far as practicable, compensatory measures are approved and in place prior to the effects arising. Consequently, the ExA considers it reasonable that some of the matters of detail, for example the allocation of specific sites, land consents and securing any planning consents or licences that may be required, can be determined post-consent, because the requirement for such future provision is adequately secured in Schedule 18 of the rDCO for each species.
- 24.7.99. The specific wording that is set out in Parts 1 to 6 of the rDCO (Appendix 4) states that the authorised development cannot commence until a plan for each species-specific working group has been submitted. Furthermore, the submission of an implementation and monitoring plan is specifically referenced for each species in Schedule 18 and no tower for a WTG can be installed until the approved measures have been implemented. In addition, section 2(d) of each of Parts 1 to 6 of Schedule 18 specifically requires the inclusion of a dispute resolution mechanism. Adaptive management measures are specially referenced in each of section 3 of parts 1 to 6 of Schedule 18.
- 24.7.100. Although not all the specific details of how concerns raised by NE and the RSPB have been provided during the Examination, the ExA is content that those not provided so far have been adequately secured in the Schedule 18 of the rDCO. Taking all of this into account, the ExA is satisfied that an appropriate balance between certainty and flexibility has been reached in regard to the level of detail that has been provided up-front by the Applicant in order to inform both the ExA's Recommendation Report and the requirements for provision of subsequent details secured in the rDCO.

Deliverability of compensation measures

- 24.7.101. By the close of the Examination, both NE and the RSPB had maintained their concerns that areas of land acquisition have not specifically been identified as part of the compensation measures, and also any necessary permits have not been secured. The ExA considers that of the proposed compensation measures, only the construction of artificial nesting sites and the erection of fencing would be likely to necessitate arrangements being agreed with potential landowners for new structures to be built. Depending on their nature and location there is the possibility that planning consent may be required for these proposed structures.
- 24.7.102. The Applicant's view, as set out in [REP13-015], was that the proposed measures were secured at an appropriate level whilst allowing flexibility for potential refinements, and that it was not appropriate to secure any

permissions or consents before a decision had been made as to whether or not such measures were deemed necessary.

- 24.7.103. Taking these opposing views into account, the ExA considers that it would be preferable if the consent of potential landowners for the relevant compensation measures had been demonstrated by the close of the Examination. However, the ExA notes that artificial nest sites for kittiwake have previously been provided in the UK. In addition, the wording of Schedule 18 of the rDCO gives the ExA a sufficient level of comfort that the Proposed Development could not proceed until compensation measures, should they be required, had been adequately secured. This would include landowner consent and securing any required permissions or other consents.
- 24.7.104. In the Offshore Ornithology Compensation Measures Funding Statement [REP8-081] the Applicant has provided estimates over 30 years for each of the proposed compensation measures. The ExA notes that a 50% contingency increase has been applied. Furthermore, in [REP8-081] the Applicant has provided detailed financial information in the form of the Annual Report and Accounts for the year ended 31 December 2019 for ScottishPower Renewables (UK) Limited, of which the Applicant is a subsidiary company.
- 24.7.105. Overall, the ExA considers that the Applicant has not underplayed the potential costs entailed in the provision of compensation measures, and that the estimates provided in [REP8-081] are reasonable. Also, based on the financial information provided regarding ScottishPower Renewables (UK) Limited, the ExA is content that this amount of funding would be available, including via the capital reserves of the parent companies if so required.
- 24.7.106. The ExA acknowledges that Schedule 18 of the dDCO [REP12-103] requires the implementation of a compensation steering group for each species for which compensation measures are proposed. In [REP12-060] the Applicant proposes that a steering group would be appointed that would comprise "*all relevant stakeholders*" but does not further define who this would comprise. As required in Schedule 18, a plan for the terms of reference, membership, schedule of meetings and dispute resolution mechanism for each of the steering groups would have to be submitted to and approved by the SoS [REP12-060]. The ExA considers that the commitment towards the creation of steering groups for the relevant species is adequately secured in the rDCO, even if the finer details of the membership and meeting arrangements are still to be determined. However, due to the degree of uncertainty, including about the ability of organisations to attend such meetings, this is a matter which the SoS may wish to further satisfy themselves on.

Securing compensation measures in the DCO

- 24.7.107. The ExA questioned the Applicant as to how the proposed compensation measures would be secured in ExQ2.2.9 [PD-030]. The Applicant introduced Schedule 18 to the dDCO at D7. The Applicant stated that the

intention was that this Schedule could be removed given its position of no AEOI for all European sites or retained should the SoS take a different view. Schedule 19 pertains to the compensation measures matters to be included in the dDML [REP7-006]. The ExA made a request for further evidence from NE [PD-034] seeking NE's views on the timing and security of the proposed compensation measures.

- 24.7.108. NE responded at [REP8-166] referring to its Appendix G5 [REP8-163] which contained several comments on Schedule 18. The MMO also commented [REP8-156], supporting NE's view that compensation measures must be detailed prior to consent. This view was echoed by the RSPB [REP8-171]. The Applicant responded to NE [REP9-016] and to the MMO [REP9-021], and updated Schedule 18 (Version 5 of the dDCO, [REP8-003]). The Applicant's position was that Schedule 18 needed to retain adequate flexibility to allow for refinements post-consent, as the compensation measures are developed with stakeholders.
- 24.7.109. The MMO confirmed that it considered Schedule 18 to be an appropriate mechanism to secure compensation measures [REP8-156]. The MMO provided comments on the content and wording of Schedule 18 at D9 [REP9-060] and in its D10 response [REP10-049]. The MMO echoed NE concerns regarding delaying compensation discussions to the post-consent period. The MMO acknowledged the Applicant's clarification [REP13-045] that it did not anticipate that any of the compensation measures proposed would require a marine licence, however, should this be the case licenses would be sought.
- 24.7.110. NE provided a further submission at D9 [REP9-068] in response to Version 5 of the dDCO, acknowledging the updates presented and referenced its previous advice given in Appendix G5 [REP8-163] which it stated remained valid.
- 24.7.111. At D10, the RSPB expressed its continued position that the wording of Schedule 18 did not contain adequate detail on how a strategic and collaborative approach to compensation measures would be achieved [REP10-054]. The Applicant responded at D11 [REP11-055], with reference to the use of implementation plans to be based on the compensation plan contained within the Offshore Ornithology Without Prejudice Compensation Measures document [REP11-071] to deliver this approach.
- 24.7.112. The RSPB [REP8-171] provided comment regarding the lifespan of the compensation measures with reference to EC guidance. The Applicant responded [REP9-020] by outlining its proposals for the time periods of implementation, stating that the EC guidance does not require measures to be implemented in perpetuity as proposed by the RSPB. At D10 the RSPB advised that limiting the compensation to the lifetime of the Proposed Development is inappropriate, referencing the H3 consent decision and compensation measures relating to kittiwake [REP10-054]. The Applicant reiterated its response to ExAQ3.2.12 in [REP11-055].

- 24.7.113. The ExA explored this matter asking the Applicant, NE, and the RSPB for their views in relation to kittiwake and all other bird species affected in the context of existing policy and guidance and the content of Schedule 18 [PD-049, ExQ3.2.12]. The Applicant responded to these points [REP11-088] and provided an updated Offshore Ornithology Without Prejudice Compensation Measures document [REP11-071]. This included a commitment for measures to remain *in-situ* until decommissioning or following a determination on duration made by the SoS (whichever was later).
- 24.7.114. In response to ExAQ3, NE advised that the approach would need to be specific to each measure, and that a review of compensation would be required prior to decommissioning to decide options. NE also acknowledged the existing policy position to protect compensation sites in a similar way as classified SPAs [REP11-123]. The RSPB responded, expanding on previous comments in [REP4-097]. It considered that compensation should be provided beyond the lifespan of the Proposed Development due to delays in the anticipated effect of the measures and accumulated annual losses of breeding adults [REP11-127].
- 24.7.115. NE and the RSPB expressed concern around the timescales for proven success and establishment of compensation measures, with advice related to artificial nesting sites for kittiwake given as an example [REP8-163, REP9-069, REP10-054]. The Applicant accepted that for bird species subject to collision risk, a time lag would occur between the impact and the success of compensation measures creating a 'mortality debt' [REP9-016, REP10-017], but maintained that the effect on the populations concerned would be very small and a long lead-in time to compensation would be disproportionate [REP11-055, REP11-088].
- 24.7.116. The ExA asked NE for its views [PD-049, ExQ3.2.11] to which NE responded in [REP11-123]. NE was of the view that the uncertainty around the effectiveness of the proposed compensation and the timescales of any results made it difficult to accept the Applicant's position, advising that to be able to do so would require demonstration that any time-lag and 'mortality debt' would not be detrimental to the colonies of birds affected. NE also advised that Schedule 18 could be drafted to allow timely implementation without necessarily requiring implementation in advance of operation.
- 24.7.117. The ExA also asked [PD-049] the Applicant about the implications for the Proposed Development of including a requirement in Schedule 18 for compensation to be functioning prior to adverse effects arising. The Applicant provided a response in [REP11-088] maintaining its position and setting out the implications for delivery of the construction programme and operational first power generation.
- 24.7.118. The ExA asked the Applicant to respond to NE's advice to include a requirement for the justification of the locations of compensation measures in terms of ecological appropriateness in Schedule 18 [PD-049, ExQ3.2.10]. The Applicant stated with reference to [REP11-071] that it did not consider any amendment to Schedule 18 necessary in this regard

as the location of measures would need to be approved by the SoS in consultation with the relevant SNCB.

ExA conclusions on compensation measures

- 24.7.119. Taking all of the above considerations into account, the ExA considers that there is sufficient information for the SoS to establish that appropriate compensatory measures can be implemented, in order to fulfil their duty under the requirements of the Habitat Regulations. The ExA concludes that the overall package of proposed compensation measures is feasible, appropriate and would ultimately ensure the overall coherence of the UK National Site Network, in accordance with EC guidance (2012).
- 24.7.120. The ExA also finds that the proposed compensation measures are adequately secured in the Applicant's final dDCO [REP12-013]. Consequently, the ExA has included Schedule 18, Parts 1-6 of the dDCO within its rDCO without amendment, as discussed in Chapter 30 of this Report.

24.8. HRA CONCLUSIONS

- 24.8.1. The Proposed Development is not directly connected with, or necessary to, the management of a European site, and therefore the implications of the Proposed Development with respect to adverse effects on the integrity (AEOI) of potentially affected European sites must be assessed by the SoS.
- 24.8.2. A total of 185 European Sites and their qualifying features were considered in the Applicant's assessment of LSE. Table 24.2 of this Chapter lists those where the Applicant considered there was potential for LSE. The European sites subsequently screened into the Applicant's assessment are shown in Annex 1 of the Applicant's report '5.3 Habitats Regulations Assessment - Information to Support Appropriate Assessment' [APP-043], Figures 1 to 5. These figures have been reproduced in Section 24.1 of this Chapter.
- 24.8.3. The methodology and outcomes of the Applicant's screening for LSE on European sites was subject to some discussion and scrutiny, however, the sites and features for which LSE were identified were not disputed by any IP. The ExA is satisfied that the correct European sites and qualifying features have been identified for the purposes of assessment, and that all potential impacts which could give rise to significant effects have been identified.
- 24.8.4. The Applicant's conclusions are that there would be no AEOI on any site from the Proposed Development alone or in-combination taking into account the Conservation Objectives for the qualifying features concerned. The Applicant's conclusions were disputed by IPs for the following sites and qualifying features and were the subject of discussion during the Examination:

- Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
- Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);
 - Guillemot (breeding);
 - Razorbill (breeding);
 - Seabird assemblage;
- Outer Thames Estuary SPA - Red-throated diver (non-breeding);
- Southern North Sea SAC - Harbour porpoise;
- Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding).

24.8.5. The Applicant's HRA Report and accompanying submissions have been considered carefully, along with the evidence and submissions discussed in this Chapter in order to form the ExA's assessment of the Proposed Development's implications for European sites.

24.8.6. The ExA's findings are that, subject to the mitigation measures secured in the rDCO, AEOI from the Proposed Development **can be excluded** from **project-alone** effects for:

- Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
- Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);
 - Guillemot (breeding);
 - Razorbill (breeding);
 - Seabird assemblage;
- Outer Thames Estuary SPA – Red-throated diver;
- Southern North Sea SAC - Harbour porpoise;
- Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding).

24.8.7. The ExA finds that AEOI from the Proposed Development **in-combination** with other plans or projects **can be excluded** for:

- Flamborough and Filey Coast SPA - Seabird assemblage;
- Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding); and
- Southern North Sea SAC – Harbour porpoise.

24.8.8. The ExA finds that AEOI from the Proposed Development **in-combination** with other plans and projects **cannot be excluded** for:

- Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
- Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);
 - Guillemot (breeding);
 - Razorbill (breeding);
- Outer Thames Estuary SPA – Red-throated diver (non-breeding).

24.8.9. During the Examination, the Applicant submitted a 'without prejudice' assessment of alternative solutions, a case for IROPI, and proposed a

suite of compensation measures. These matters were given substantial consideration throughout the Examination, and the Applicant continued to refine its case until Deadline 12.

- 24.8.10. Having carefully considered all the submitted evidence, both in hearings and in writing, the ExA is satisfied that no feasible alternative solution currently exists that would represent a lesser adverse effect than the Proposed Development. Nevertheless, noting NE's position in its final advice [REP13-048] regarding alternative solutions, it remains possible that the detailed design process could achieve a greater turbine blade air-draught height and an increase to the buffer between the OTE SPA and the East Anglia ONE North array area. It remains unknown if these outcomes could result in lesser adverse effects on the affected SPAs.
- 24.8.11. On the basis of the submitted material, the ExA is of the opinion that IROPI for the Proposed Development to proceed have been demonstrated.
- 24.8.12. The ExA has given thorough consideration to the compensation measures presented during the Examination and the views of all parties. The findings of the ExA are that the compensation measures proposed for each species and the overall package, including the secondary measure related to ornithological by-catch reduction, are feasible and appropriate and are adequately secured in the rDCO/DML.
- 24.8.13. The ExA considers that there is sufficient information before the SoS to enable an appropriate assessment to be undertaken, and if necessary, to apply the derogation tests of the Habitats Regulations of no alternative solutions and IROPI. The ExA also considers that there is sufficient information for the SoS to establish that appropriate compensatory measures could be implemented, in order to fulfil its duty under the requirements of the Habitat Regulations.
- 24.8.14. Within this Chapter, the ExA has noted three areas in which the SoS may wish to seek further information to satisfy these duties, should they disagree with the ExA's reasoning. These are:
- Whether avoidance of an AEOI on FFC SPA and Alde-Ore Estuary SPA and Ramsar could be achieved through an alternative design that increases turbine blade air-draught height, whilst also retaining a feasible and viable project;
 - whether avoidance of an AEOI on the OTE SPA could be achieved through an alternative design that increases the distance between the SPA and the Proposed Development to somewhere between 2km and 10km, whilst also retaining a feasible and viable project; and
 - whether the plans for the compensatory measures Steering Groups (secured by Schedule 18 of the rDCO), can be delivered (if required).
- 24.8.15. The ExA's recommendations are made on the basis of the information before it at the close of the Examination. Should there be any relevant developments in respect of other plans or projects that may alter the in-combination picture, then the SoS may wish to invite comments from the parties on any implications for the Proposed Development.

25. FINDINGS AND CONCLUSIONS IN RELATION TO SITE SELECTION & ALTERNATIVES

25.1. INTRODUCTION

25.1.1. This Chapter reports on the alternatives considered by the Applicant, and to the extent required by policy on those proposed by other parties, and the degree of design flexibility sought by the Applicant in relation to the tests set out in the Overarching National Policy Statement (NPS) for Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for Transmission Systems (EN-5).

25.1.2. The Chapter addresses:

- Policy considerations;
- The Applicant's approach;
- Issues raised by IPs;
- The ExA's response; and
- Conclusions

25.2. POLICY CONSIDERATIONS

25.2.1. There is a general requirement to address alternatives in the EIA process arising from Reg 14 (2) (d) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA regulations) and this must should provide an '*indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.*'

25.2.2. NPS EN-1 (at Section 4.4) does not contain any general requirement to consider alternatives or to establish whether the Proposed Development represents the best option. However, it notes that applicants must include information about the main alternatives they have studied in their ES and that there are also certain specific legislative or policy requirements under which alternatives must be considered.

25.2.3. NPS EN-1 identifies the circumstances where there is a requirement to consider alternatives as follows:

- Under specific circumstances in relation to the requirements of the Habitats Regulations (HRA) (at paragraphs 4.4.1 and 4.4.2). This is addressed in Chapter 24 of this Report, drawing from policy and reasoning recorded here.
- Development should seek to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives (paragraph 5.3.7). These matters are addressed in Chapters 10, 18, 19 and 20 of this Report, again in reliance on policy and reasoning recorded here.
- In respect of flood risk, a sequential test should be applied as part of site selection (paragraph 5.7.9), with a preference for location in

Flood Zone 1 (paragraph 5.7.13). This matter is addressed in Chapter 6 (although it must be noted that the conclusions from this at the point of site selection and the expectation of the extent of its application at the time of writing have changed, as a consequence of policy changes to the NPPF in July 2021³⁶). Again, these matters are addressed there in reliance on policy and conclusions recorded here

- In respect of Areas of Outstanding Natural Beauty, consideration should be given to the scope for developing outside the designated area (paragraph 5.9.10). This has been addressed in Chapter 7 of this Report in reliance on policy and conclusions recorded here.

25.2.4. NPS EN-1 (at paragraph 4.4.3) sets out principles which guide decisions about what weight should be given to alternatives. These include:

- the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner;
- alternatives not among the main alternatives studied by the Applicant should only be considered to the extent that they are both important and relevant;
- alternative proposals which are vague or inchoate can be excluded on the grounds that they are not important and relevant.

25.2.5. In this last respect, it should be noted that where persons other than the Applicant have proposed possible alternative sites for onshore transmission system connection points, these have not undergone analysis of an equivalent rigour to those addressed in the application document set. Specifically, they have not been appraised in the ES and nor have matters such as notice to (prospectively) affected persons been given, if an implication of such a proposal is that additional land is required.

25.2.6. It should be recorded at the outset that, whilst the ExA has considered such proposals, including by undertaking site inspections, once it has reached a position that the site selection process undertaken by the Applicant is compliant with policy and has led to a broadly deliverable Proposed Development, it has followed that less analysed alternatives that are not supported by the Applicant are not matters that the ExA has (by the conclusion of the Reporting period and for recommendation purposes) viewed as being important and relevant.

25.2.7. Turning to offshore development, as with the generality of offshore wind farm (OWF) NSIP applications considered for development consent under PA2008, it was not possible at the time of the application for development consent for all aspects of this Proposed Development to be settled in precise detail. The established Rochdale Envelope approach to design and assessment was used.

³⁶ It should be noted that in relation to the application of the Flood Zones, the definitions of these were found 'in PPS25 (in England [...]) or their relevant successor documents' (NPS EN-1 footnote 113 at pg 84). The relevant successor document is the NPPF of July 2021.

- 25.2.8. This is for good technological, cost and public policy reasons. It remains important that an OWF developer can amend delivery to respond to technological and market changes between initial design and final construction. Typically, over the planning to implementation period of projects such as these, turbine installed capacity options increase the potential energy yield or reduce the number of WTGs required to deliver a target yield, and production and installation efficiencies lead to cost reductions. These effects help secure the most cost-effective energy achievable for the UK consumer. Equivalent commercial and cost-minimisation reasoning applies to the selection of construction and servicing ports, where an assessment based on more than one port option is a normal means of enabling an undertaker to obtain port services on competitive commercial terms, again minimising consumer costs.
- 25.2.9. NPS EN-1 (in paragraphs 4.2.7 & 8) in that regard is clear that it may not be possible at the time of an application for development consent for all aspects of a proposal to have been settled in precise detail. The Applicant is asked to explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case. The ES should set out what the maximum extent or worst-case effects of the proposed development may be and assess, on that basis, the upper boundary of the effects which the project could have, using the Rochdale Envelope approach.
- 25.2.10. NPS EN-3 adopts this approach too (paragraphs 2.6.42 through to 2.6.45). Matters which EN-3 accepts may not be firmly settled at the time of the application include:
- the precise location and configuration of WTGs and associated development;
 - the WTG and offshore platform foundation type;
 - the WTG blade tip height;
 - export and array interconnector cable type and route; and
 - the locations of offshore substations.
- 25.2.11. NPS EN-3 is also clear (paragraphs 2.6.43 & 4) that any consent granted should be flexible enough to enable the micro-siting of elements of the proposed wind farm offshore during its construction phase, where scope for this is sought at the application stage. This forms an important part of the design response to the management of offshore biodiversity matters (Chapters 18 to 20), ensuring that individually important features and locations can be avoided and providing the same responsiveness to offshore physical features including in relation to cable trenching and passage through rocky areas and reef.
- 25.2.12. NPS EN-3 identifies that an application should include an assessment of the effects of installing cables across the intertidal zone, which should include information the landfall site methods that have been considered by the Applicant during the design phase and an explanation for the final choices made.

- 25.2.13. NPS EN-5 is applicable to transmission system development and so provides the policy framework in relation to those aspects of the Proposed Development that form a transmission system development NSIP. It is relevant here because, unlike the circumstances that apply where OWF development is provided with a transmission system connection offer at an existing transmission system substation site, in this case, a connection offer was made at Leiston, with the preferred connection location resolved as being a location near Friston, where there was no pre-existing transmission connection and new National Grid Electricity Transmission (NGET) substation. On that basis, a new NGET substation also needed to be developed and that forms associated development together with transmission line NSIP development to which NPS EN-5 applies.
- 25.2.14. Section 2.2 of NPS EN-5 addresses factors influencing site selection by applicants. Paragraph 2.2.1 makes clear that the location of sites for transmission infrastructure is market led, subject to the applicant's assessment of the risk that the SoS may not grant development consent, as a consequence of matters arising under NPS EN-1 paragraph 4.4.1 (see above). Paragraph 2.2.1 also makes clear that the matters set out in section 2.2 are *"not a statement of Government policy, but are included to provide the [SoS] and others with background information on the criteria that applicants consider when choosing a site or route. The specific criteria considered by applicants, and the weight they give to them, will vary from project to project."* Essentially, the burden of site selection and the adoption of site selection criteria falls onto applicants for electricity networks NSIPs.
- 25.2.15. The process of making a transmission system connection agreement is regulated under the Electricity Act 1989, Schedule 9. This imposes duties on licence holders, including to develop and maintain an efficient, coordinated and economical system of electricity transmission, and to *"have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and ... do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects..."* (the 'EA1989 duties'). NPS EN-5 (paragraphs 2.2.6-7) requires the applicant to explain how the EA1989 duties have been discharged.
- 25.2.16. The process is also governed by the NG ESO Connection and Infrastructure Options Note (CION) process and by the National Grid's Guidelines on Substation Siting and Design (The 'Horlock Rules').

25.3. THE APPLICANT'S APPROACH

- 25.3.1. The Applicant's description of the site selection approach for EA2, together with a consideration of alternatives is set out in the ES at Chapter 4 [APP-052]. The description divides between an offshore site selection approach that is unique to the Proposed Development, and an

onshore site selection approach where the landfall location, cable alignments and transmission connection location are shared with the other East Anglia project. In this regard, mention must also be made of the role of NGET in the onshore site selection process. It is also important to record that all detailed connection options were prepared on the basis of high voltage alternating current (HVAC) technology, so the 'choice' and differential effects between HVAC and high voltage direct current (HVDC) that has been found in a number of other recent OWF Examinations is not found here.

Offshore Site Selection

25.3.2. Sections 4.7.1 and 4.7.2 of ES Chapter 4 [APP-052] outline the offshore site selection process with supporting material found in the following documents [APP-086] (Study Area), [APP-442] (Consultation Responses), [APP-443] (RAG Assessment), [APP-447] (Coastal Processes and Landfall), and this was augmented in Examination by a presentation on the site selection approach [AS-166]. In summary terms, this process has passed through the following steps:

- Initial offshore zone selection through the Crown Estate (tCE) Round 3 OWF tendering processes in 2008. In preparation for the round, tCE used its Marine Resource System (MaRS) Geographic Information System (GIS) tool to identify suitable areas for offshore windfarm development through the exclusion of areas subject to evident development constraints.
- Following the formation of Round 3 Zones offshore using this process, an Offshore Energy Strategic Environmental Assessment (OESEA) undertaken in 2008/2009. The OESEA assessed the implications of OWF leasing in the UK Renewable Energy Zone and the territorial waters of England and Wales, alongside the implications of other industry activities. It covered ecological, physical and human environmental factors including heritage and seascape and landscape effects. The results identified that the zones represent suitable 'areas of opportunity' for OWF projects, where projects could be delivered within acceptable environmental limits.
- A consortium called East Anglia Offshore Wind (EAOW) was formed between SPR and Vattenfall Ltd. In 2010, EAOW was announced as having won the bid for the East Anglia Zone (Zone 5), a large sea area encompassing what now include the East Anglia projects (East Anglia ONE (consented), East Anglia THREE (consented), East Anglia ONE North (the other East Anglia Project) and East Anglia TWO (the subject of this Report)) other OWF projects to be brought forward separately. SPR and Vattenfall have now split the EAOW area between them and SPR (and its subsidiaries including the Applicant) are exclusively responsible for East Anglia THREE, the Proposed Development and the other East Anglia project.
- In 2014, EAOW undertook a Zone Appraisal and Planning (ZAP) process in the Zone 5 area, a process which applied further technical, environmental and sea-use information (including oil and gas, shipping, aviation, cables and military activities data) to refine zone areas seen as appropriate OWF development sites and those that

were not. The EA2 offshore site emerged from that process, which expressly considered and removed potential alternative sites in the Zone 5 area.

- 25.3.3. Having defined a site boundary for the Proposed Development and also undertaken an onshore site selection process (see further below), the broad strategic siting processes for the offshore cable corridor and landfall were undertaken. These are described in Sections 4.7 (offshore cable) and 4.8 (landfall) of ES Chapter 4 [APP-052], where a primary consideration was to facilitate an onshore cable alignment to the proposed transmission system connection location, whilst avoiding sea and land areas likely to be subject to development requirements arising from the Sizewell C new nuclear power station proposal (SZC) and undertaking joint work on the means to avoid adverse effects to the exposed Coralline Crag, an offshore feature that provides coastal process protection to the SZC site.
- 25.3.4. The offshore site selection process for the wind turbine generators (WTG) array (the generating station) is described by the Applicant as including discussions on the positioning of the array area within the offshore site in relation to potential impacts to the Outer Thames Estuary SPA. This matter is addressed in terms of the legal requirements of the Habitats Regulations in Chapter 24 of this Report. Other consequential matters considered related to the appropriateness of the landfall as a means of connecting the proposed WTG array offshore to the proposed means of transmission system connection onshore.

Onshore Site Selection

- 25.3.5. Section 4.9 (onshore site selection and alternatives) of ES Chapter 4 [APP-052] describes the process used to select an onshore transmission system connection site, and to locate the onshore cable corridor from the landfall location to the transmission system connection site. The corridor, connection site and methodology were shared between the Proposed Development and the other East Anglia Project.
- 25.3.6. In terms of construction, the main optionality relates to the possibility of the Proposed Development being delivered simultaneously with the other East Anglia development (scenario 1) or sequentially, one after the other (scenario 2) (ES Chapter 6 – Project Description [APP-054]). The sequential construction process was assessed by the Applicant as the worst case scenario in the context of the Rochdale Envelope approach.
- 25.3.7. However development was to proceed, provisions in the dDCO [REP12-013] secure that the installation of cable ducts for the Proposed Development must be coordinated with the other East Anglia project to minimise disruption that might follow from two sequential phases of groundworks (R42). To ensure that transmission connection works are not begun speculatively or to benefit development that is not the subject of this application or the application for development consent for the other East Anglia project, the dDCO also provides that the grid connection works cannot commence until the relevant offshore works

have commenced, or alternatively that the SoS is satisfied that the works should commence (R43).

The Transmission Site Selection Process

- 25.3.8. Within the framework provided by NPS EN-1 and EN-5 and the EA1989:
- A connection offer to the transmission system is made at a strategic location, followed a procedure outlined in the CION process.
 - A specific onshore site is identified using a detailed assessment within the framework set by the Horlock Rules.
- 25.3.9. In 2010, the then EAOW projects signed connection agreements with National Grid, which would have seen the then East Anglia ONE, East Anglia TWO (the other East Anglia project) and East Anglia THREE connecting to the transmission system at the existing Bramford 400kV substation site near Ipswich. However, when SPR and Vattenfall split the ownership of the EAOW development areas, a review of the existing connection agreements was undertaken in 2017 (the CION review).
- 25.3.10. In terms of the CION review process, four options were considered:
- Option 1: connecting to the existing Bramford 400kV substation;
 - Option 2: connecting to existing / extended Sizewell 400kV substation;
 - Option 3: connecting to new Leiston 400kV substation; or
 - Option 4: connecting to existing Norwich Main 400kV substation.
- 25.3.11. That process resulted in a connection offer at Option 3, necessitating the construction of a new NG substation, in addition to a substation for the Proposed Development.
- 25.3.12. Having settled a broad strategic location, a red – amber – green (RAG) selection process reviewed at eight broad zones in the Leiston area in which onshore substations might be located. Zone 7 was the location near Friston and Zone 8 was a location near Broom Covert, Sizewell, adjacent to the existing Galloper and Greater Gabbard substations and transmission system connection points.
- 25.3.13. In summary terms, the Friston location was viewed by the Applicant as the preferred substation location. Its main benefits were seen as its location outside the Suffolk Coast and Heaths AONB, the availability of a substantial body of land in which all substation infrastructure could be co-located, taking significant screening benefits from established woodland and the avoidance of possible conflicts with construction, operation or decommissioning in relation to Sizewell nuclear power stations. The disbenefit of the location was the need for a significant additional extent of onshore cable corridor to connect it to the landfall location.
- 25.3.14. Having been investigated in the same process, the Broom Covert location was considered to have disbenefits relating to its location in the Suffolk Coast and Heaths AONB (in respect of which there was a strong contrary to policy indication) and the need for some of the land in association with

development, operation and/or decommissioning at the Sizewell nuclear power stations raised the potential for the need to take land required for one or more of those projects, to possible objections to acquisitions. The benefit of the Broom Covert location was a shortening of the cable alignment between the landfall and the connection point.

The Corridor Site Selection Process

- 25.3.15. Section 4.9.2 (onshore cable corridor) of ES Chapter 4 [APP-052] describes the cable corridor search process, essentially seeking to link the landfall and substations sites for both the Proposed Development and the other East Anglia project, whilst limiting effects on designated sites including the AONB and the Sandlings SPA.

25.4. PLANNING ISSUES

- 25.4.1. The following matters arose during Examination in respect of the consideration of site selection and alternatives.
- The adequacy of the site selection process for the onshore transmission connection point and hence for the landfall and the cable alignment.
 - The NG decision not to offer a transmission system connection at Bramford and to offer a connection in the Leiston area.
 - The site selection process that led to the identification of a connection location near Friston.
 - The decision as part of that not to proceed with a connection at or near Sizewell / Broom Covert.
 - The argument for a different form of connection option altogether, generally referred to as an offshore ring main (ORM) or coordinated connection approach.
 - The related argument that policy changes in process, including those arising from the Energy White Paper 'Powering our Net Zero Future' (December 2020), the NPS EN suite review, the BEIS Offshore Transmission Network Review and Ofgem review would – by the time that this recommendation was submitted or the decision was made by the SoS – indicate that a different means of transmission system connection to that included in the Proposed Development should be adopted. These matters were raised by SASES [REP1-364][REP3-128][REP3-129].
 - The last two of these matters were argued by SASES and also by the Rt Hon Thérèse Coffey MP [REP11-165] as justifying a 'split decision', in which development consent might be granted for the offshore WTG array (the generating station) and interconnecting cables, but not for the onshore transmission system connection development or for the cable connection between the array and the landfall or the landfall and the onshore transmission system connection.
- 25.4.2. These matters as raised by IPs related primarily to the recorded design and development approach and the argued adverse effects of onshore works. The detail about those effects relied upon in this Chapter can be found in Chapter 6 (Flooding and Drainage), Chapter 7 (Landscapes and

Visual Amenity), Chapter 8 (Onshore Historic Environment), Chapter 10 (Onshore Biodiversity) and more broadly across Volume 1 in its totality.

25.4.3. In relation to offshore site selection, matters were raised by NE and the RSPB in relation to array locations and are addressed in Chapter 24 as they relate directly to the HRA process.

25.4.4. The purpose of this Chapter is not to further consider those argued effects, but rather to evaluate whether, within the existing legal and policy framework, the Applicant has failed to do anything in respect of the consideration of alternatives in relation to those matters that should have been done.

Adequacy of Site Selection Process

25.4.5. The site selection and options appraisal process onshore was argued not to have been adequate or not to have been optimal. Factual issue was taken with the extent of the site appraisal information available for the CION process. Some of its conclusions about landscape character were challenged (suggesting that the Friston site had been underweighted in terms of its landscape value and tranquil, undisturbed nature). Concern was expressed that, with the outcomes evident from the site selection process, the Applicant and NGET had not given sufficient weight to matters such as adverse and arguable avoidable or better mitigable effects on historic built environment assets near Friston (and so were argued to be in breach of their EA1989 duties). These in turn might have driven a better site selection process to select another transmission system connection site.

25.4.6. It was argued that Bramford (near Ipswich, a connection location used by East Anglia ONE and East Anglia THREE OWFs) could have offered a viable connection option and that its dismissal was insufficiently reasoned.

25.4.7. It was argued that Broom Covert (near Sizewell, the connection location for Galloper and Greater Gabbard OWFs) could have offered a viable connection option and that its dismissal was insufficiently reasoned. Evidence was provided here by SZC that land necessary to form an additional substation adjacent to Broom Covert was needed for natural environment mitigation associated with the new nuclear power station development. SCC, ESC and IPs associated with the protection of the Sandlings SPA did not support a Broom Covert connection location, on the basis of potential harm to the SPA and to the AONB within which it is located. They argued that a coalescence of further energy development in this location would further and avoidably harm these two important designated areas.

An ORM or Coordinated Connection

25.4.8. SASES suggested that there should be a coordinated offshore extension to the national electricity transmission system, sometimes referred to as an offshore ring main or ORM, connecting multiple offshore WTG arrays via collecting substations on platforms similar to those proposed by

current wind farm developers to shared onshore transmission system hubs in locations such as Bramford substation near Ipswich or Bradwell in Essex, the site of a now decommissioned Magnox nuclear power station. It was suggested that this would avoid the need for offshore developers to continue to apply for consent to bury transmission cables across the Suffolk countryside. It might also indicate that a better and less harmful onshore transmission system connection point might be available than the one proposed near Friston.

- 25.4.9. This alternative was not considered by the Applicant in the ES. The Applicant took the view that it was entitled to prepare an onshore transmission system connection location and cable alignment that addressed the direction set by the current (mainly) NPS EN suite policy settings and using the current CION process to site necessary grid infrastructure.

Policy Change

- 25.4.10. SASES and the Rt Hon Dr Therese Coffey MP argued strongly that there was what amounted to a prematurity point in relation to the proposed onshore transmission system connection at Friston. The Energy White Paper had emerged alongside the BIES Offshore Transmission Networks Review and the review of the EN suite of NPSs themselves. A decision should not be taken on an Application that responded to onshore design and development drivers from a policy framework that appeared likely to be substantially reformed. This was argued especially to be the case when the suggested direction of reform was one that apparently might favour a different transmission connection approach to the one committed to in the Application.
- 25.4.11. This led to a related concern from SASES that, should the Application be approved, a transmission connection would be developed at Friston which might become a 'de facto' connection hub for other use and development, when site selection decision-making had been driven within existing policy settings, by the service of individual project need. This could lead to the establishment of a strategic connection location in a place which, were it to be considered as such, arguably such a facility should not be developed because its harms would outweigh its benefits.

A 'Split Decision'

- 25.4.12. Arguments were put IPs (again led primarily by SASES and the Rt Hon Dr Therese Coffey MP) to the effect that policy was changing in a way that clearly evidenced a direction of travel towards the strategic coordination of transmission connections between multiple OWF arrays, as distinct from the current market competitive 'one array, one connection' approach, where the transmission system connection location is principally driven by a grid connection agreement.
- 25.4.13. In their view, this evident policy trajectory meant that the Application should be, or should aspire to be the first of the new, as distinct from the last of the old. Weight should be placed on emergent policy directions, on

the failings of current policy settings and/ or a decision should be delayed until new policy came fully into effect.

- 25.4.14. They argued that these circumstances, in which the adverse effects of the onshore development were taken into account, would indicate that there should be a 'split decision', where the ExA might recommend to the SoS that development consent should be granted to the offshore arrays (on the basis that their site selection was viewed as uncontroversial and the need for renewable generating capacity as broadly made out), but that it should be withheld onshore. This withholding would respond (amongst other reasons) to the argued deficiencies in the site selection process onshore and to the aggregate of adverse effects arising from the onshore development.

25.5. ExA RESPONSE

- 25.5.1. In considering alternatives and in reviewing the site selection process as part of that, it is important that the ExA commences with clarity about the nature and purpose of the exercise in which it is engaged. Section 25.2 above draws out the policy position in respect of the consideration of alternatives. It can be seen there that the ExA and the SoS must consider alternatives and site selection for the specific purposes identified in statute and in NPSs EN-1 (broadly arising from section 4.1.1), EN-3 and (in respect of the transmission development) EN-5. This requires consideration of alternatives for the purposes of:

- HRA;
- EIA, and specifically within that:
 - avoiding significant harm to biodiversity and geological conservation interests;
 - assessing and responding to flood risk in certain circumstances;
 - avoidance of harm or mitigation of development effects within an AONB; and
- addressing the combination of EA1989 duties and the CION process for transmission system siting.

- 25.5.2. Other matters raised by IPs are addressed briefly, from the standpoint of setting out reasoning that they are not matters in respect of which a detailed consideration of alternatives is required.

- 25.5.3. Site selection processes are important and relevant considerations only in so far as they form part of an element of the consideration of alternatives that is required to be carried out.

- 25.5.4. It is also important to note that, notwithstanding the prospect of alternative policy approaches arising from the BEIS Offshore Transmission Review, at the time of Reporting, those do not yet form policy. The ExA spent time in Examination seeking views on progress and the possible outcomes of this review process, on the basis that there was a possibility that it might mature and have to be taken more fully into account. However, at the time of submission it has not and the

Applicant is entitled to consideration under the currently applicable policy framework.

HRA Considerations

- 25.5.5. In relation to HRA considerations, the ExA observes in Chapter 24 of this Report at paragraph 24.5.8 the site selection process entails the strategic and detailed elements of site selection, ranging from tCE initial zonation, the Round 3 zone and site identification processes including the OESEA, and then site refinement using the subsequent ZAP process, all of which contribute to an understanding of the environmental constraints (including those relevant to HRA) informing site selection decisions. The ExA's consideration of alternatives as required under the Habitat Regulations, is set out in Chapter 24 of this Report. Paragraph 24.5.8 addresses the question of compelling need for the Proposed Development and that there is no 'do nothing' option. Paragraph 24.5.7 concludes on alternative forms of energy generation. Paragraph 24.5.8 concludes on the availability of alternatives for HRA purposes.
- 25.5.6. It follows from the above that the ExA is satisfied that no alternative locations or sites exist for the offshore wind farm array that would present a feasible alternative solution.

EIA Matters

- 25.5.7. Relying on findings in Chapters 6, 10, 18, 19 and 20 in respect of flood considerations and biodiversity, the ExA finds that adequate regard has been had to alternatives and that the legislative (the EIA regulations) and policy requirements in this regard have been met. Equivalently, the options appraisal approach has mitigated effects on the AONB, principally through the exclusion of transmission connection location sites within it, including Broom Covert.

EA1989 Duties and CION

- 25.5.8. In respect of these purposes, NPS EN-5 Section 2.2 is clear that it is not the role of the ExA to second-guess the judgement of an Applicant or NGET in respect of the siting of transmission infrastructure, and that equally, the Applicant or NGET's siting choices are at their own risk, within the framework provided by NPS EN-1 paragraph 4.4.1.
- 25.5.9. It clear that the ExA is not 'at large' in the territory of alternatives. The ExA must consider the merits of the application before it, including the consideration of alternatives with respect to the matters where they are relevant. It is sufficient in this respect to consider whether alternatives have as a matter of fact been appraised (and they have been). The meaning of the Applicant's risk is this: if the ExA were to conclude in any other detailed evaluation that the performance of the Application did not meet relevant NPS or other applicable tests, then the preferred site option advanced before the ExA might not be recommended. Those are tasks carried out in all of the other planning merits Chapters of this Report.

- 25.5.10. However, if the preferred site is capable of recommendation on the balance of applicable law, policy and other important and relevant considerations, then it is sufficient for the ExA to observe that as a matter of fact the CION process was carried out and that options were appraised. Equally in respect of the EA1989 duties, it is sufficient for the ExA to find that all relevant matters were considered by the Applicant during the option appraisal process. The ExA finds accordingly.

Other Considerations

General adequacy of site selection onshore

- 25.5.11. The ExA has reviewed the applicable legal and policy framework in paragraph 25.5.1 of this Report. The extent of community concern and disquiet about the general adequacy of the site selection process that led to the selection of the Friston transmission connection location and cable corridors to it is noted. However, that disquiet alone does not provide a basis under which the ExA may move at large and interrogate the adequacy of site selection processes and decisions about alternatives, other than provided for in law and policy and dealt with immediately above. The adequacy of the selected site becomes a matter of the application of relevant legal and policy tests and then for the planning balance in due course.
- 25.5.12. In that respect, the ExA having found above that the legal and policy framework for the consideration of alternatives and site selection summarised in paragraph 25.5.1 of this Report has been met, there is no basis for broader consideration of submissions on this matter. Further description is provided below, only in so far as it is necessary to explain why the ExA conducted the Examination on these broader matters in the manner that it did.

An ORM or Coordinated Connection

- 25.5.13. The ExA did consider this approach during the Examination, as until closure it remained possible that such an approach might become relevant as a consequence of an operational policy change that might occur during the Examination. However, such a change did not take place and the relevant policy framework remains as described in this Chapter.
- 25.5.14. The Applicant is not compelled to advance a voluntary 'pathfinder' approach to the development of an ORM or equivalent project. It has developed a project-specific solution and secured a grid connection offer. It is entitled to consideration of its individual connection proposal that has been under design development for some time, with the current onshore connection proposals, within the framework provided by current policy.

Policy Change

- 25.5.15. Again, the ExA did consider the possible effects of policy changes more broadly during the Examination, as up until closure it remained possible that such considerations might also become relevant. As a matter of

record however, there was no relevant operational policy change during the Examination.

- 25.5.16. The Energy White Paper was published and is an important and relevant consideration. However, its operational implementation is for most relevant purposes delegated to the BIES Offshore Transmission Networks Review and the review of the EN suite of NPSs. The former has not yet published any formal concluding outputs and so cannot be accorded any significant weight by the ExA. The latter has been published for consultation, but the consultation document makes clear that assessments and decisions relating to applications already within the NSIP system must continue to be undertaken with reference to the existing designated NPS EN-suite of policies, not the draft replacements. For this reason, the ExA has not accorded weight to this element of policy change, noting only that if new NPSs are designated before the SoS decides this application, then this aspect of this reasoning will need to be reviewed by the SoS.

A 'Split Decision'

- 25.5.17. Given the limited remit of this consideration of alternatives and the conclusion that the work carried out by the Applicant has been adequate to legal and policy purpose, there is no basis within the matters considered in this Chapter for a 'split decision': a recommendation to grant development consent offshore whilst withholding development consent onshore. This is a matter for conclusion in the planning balance, but cannot arise here in and of itself.

25.6. CONCLUSIONS

- 25.6.1. Drawing these matters together, the ExA has concluded as follows:
- The consideration of alternatives forms part of the HRA process in circumstances where an adverse effect on integrity (AEoI) has been found, where it is necessary to demonstrate that no alternatives exist that would cause lesser harm. The ExA is satisfied that the consideration of alternatives has been sufficient to inform any need to engage the 'no alternatives' test of the Habitats Regulations.
 - The consideration of alternatives has been sufficient for EIA purposes and specifically, to enable site avoidance and or mitigation in relation to biodiversity and geological significance.
 - The consideration of alternatives in relation to flood risk was sufficient in respect of the policy applicable at all times during the preparation and Examination of the Application. Additional considerations have recently arisen from changes to the NPPF and are addressed in Chapter 6, but broadly the ExA is content that technical means of resolving them within the Order land can be found.
 - The consideration of transmission connection location and onshore cable alignment alternatives has contributed towards a reduction of the effect of the proposed development on the AONB (although that has occurred to a substantial extent by moving adverse effects to a location outside the designated area).

- The CION process has been carried out. The EA1989 duties were discharged. These processes were conducted at the Applicant's risk, but the ExA judges on balance that they were sufficiently delivered so as to be meaningful and to explain why the Applicant took the site selection decisions that it did.
- There is no legal or policy imperative for the consideration of emerging or possible alternatives, including the ORM or other means of coordinating the transmission system connection, or policy changes that might emerge to increase the weight on such approaches.
- In circumstances where a transmission connection location and alignment have been proposed in the Application which meets relevant tests in currently applicable policy, that must be considered.
- Should current policy change before the SoS makes a decision, the consideration of that change will be a matter for the SoS.

25.6.2. On the basis that the conclusions reached here are procedural only, they do not carry any weight in the planning balance.

26. FINDINGS AND CONCLUSIONS IN RELATION TO GOOD DESIGN

26.1. INTRODUCTION

- 26.1.1. This chapter considers good design. Because of the overarching nature of the topic, the chapter is not based on any specific chapter of the Environmental Statement (ES) but includes details from various areas.
- 26.1.2. The chapter is organised in a different way to many of the other chapters in the report as it necessarily incorporates and cross references issues relating to good design from preceding chapters. Due to this, the Applicant's case is considered within Planning Issues and the ExA Response is based around whether the Proposed Development meets the policy considerations.
- 26.1.3. The chapter is split into the following sections:
- Policy Considerations
 - Planning Issues, including the Applicant's case
 - ExA Response
 - Conclusions

26.2. POLICY CONSIDERATIONS

Overarching National Policy Statement for Energy (EN-1) (NPS EN-1)

- 26.2.1. NPS EN-1 states (paragraph 4.5.1) that the visual appearance of a building is sometimes considered to be the most important factor in good design, but that high quality and inclusive design goes far beyond aesthetic considerations. It notes that the functionality of an object — be it a building or other type of infrastructure — including fitness for purpose and sustainability, is equally important. Applying "good design" to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible.
- 26.2.2. NPS EN-1 acknowledges that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area (paragraph 4.5.1).
- 26.2.3. NPS EN-1 notes that the Secretary of State (SoS) needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In so doing, the SoS should satisfy themselves that the Applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible (paragraph 4.5.3).

- 26.2.4. Whilst the Applicant may not have any or very limited choice in physical appearance of some energy infrastructure, there may be opportunities for the Applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area (paragraph 4.5.3).
- 26.2.5. Applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, Applicants should set out the reasons why the favoured choice has been selected. In considering applications the SoS should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy (paragraph 4.5.4).

National Policy Statement for Renewable Energy Infrastructure (EN-3) (NPSEN-3)

- 26.2.6. NPS EN-3 notes that proposals for renewable energy infrastructure should demonstrate good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology.

National Policy Statement for Electricity Networks Infrastructure (EN-5) (NPS EN-5)

- 26.2.7. NPS EN-5 states that proposals for electricity networks infrastructure should demonstrate good design in their approach to mitigating the potential adverse impacts which can be associated with overhead lines.

Development Plans and other local policies

- 26.2.8. Suffolk Coastal Local Plan Policy (SCLP) 3.4, 'Proposals for Major Energy Infrastructure Projects', states that the Council will take into consideration the nature, scale, extent and potential impact of proposals for major energy infrastructure projects, including cumulative impacts throughout their lifetime. The supporting text also highlights that developers will be encouraged to work collaboratively and share infrastructure to help reduce potential impacts.
- 26.2.9. Policy SCLP11.1, 'Design Quality', seeks to encourage high quality design that responds to the local character, and sets out criteria that proposals should meet. The policy seeks to ensure development is designed appropriately responding to local context in terms of factors including the overall scale and character, layout, and making use of high-quality materials.

26.3. PLANNING ISSUES

- 26.3.1. The ExA's first written questions (ExQ1) [PD-018] asked various questions of the Applicant regarding good design, including questions over how the provisions of NPS EN-1 were met for all areas of the Proposed Development.
- 26.3.2. The Applicant's answers [REP1-105] included references to:
- The nature of the Rochdale Envelope approach and the flexibility this allowed for design to evolve post-consent and during the construction stage to minimise environmental impacts while maximising energy yield and cost efficiency.
 - A reduction in the northern extent of the windfarm site following feedback to the Preliminary Environmental Information Report (PEIR) to reduce effects on onshore receptors.
 - Considering the 'Horlock Rules' (National Grid's Guidelines on Substation and Siting and Design) during the site selection process and the National Grid (NG) CION process (these aspects are considered in Chapter 25, Alternatives).
 - The provision of Requirement 12 in the draft Development Consent Order (dDCO) to ensure that all details of layout, scale, and external appearance of the substations are approved by East Suffolk Council (ESC) and that all details must accord with the Outline Onshore Substation Design Principles Statement.
 - The decision to bury cables from the landfall to the substation site to have no above ground infrastructure along the cable route.
 - Siting of the proposed substations to the west and south of existing woodland blocks to gain maximum benefit from screening.
 - Proposed mitigation planting to further screen substations within the Outline Landscape Ecological Management Strategy (OLEMS) and Outline Landscape Management Plan (OLMP).
 - Proposing a GIS substation as an intermediate solution which conceals away switching equipment and leaves hardware installations 'outside'.

Local Impact Report (LIR)

- 26.3.3. The Councils' LIR [REP1-132] noted that one of the main concerns of the local community was the design of the substations and whether adherence to the Design Principles Statement would deliver a development of acceptable standards. The Councils wished to ensure that all reasonable endeavours had been made to minimise the size and scale of the substations, through the parameters of the buildings themselves and through their siting, including whether they could be lowered into the ground to reduce the height of buildings and equipment.
- 26.3.4. The Councils noted the submission of the Outline Onshore Substation Design Principles Statement (OOSDPS) [APP-585] but noted that it did not apply to the NG substation. The Councils considered that the design principles should relate to both the substations and the NG infrastructure having its own Outline Design Principles Statement.
- 26.3.5. They considered that insufficient detail had been provided by the Applicant for the Councils to adequately assess the design of the development. The submission material did not include details of the

existing and proposed site levels, finished floor levels of the substations or any cross section through the substations site. Two finished floor level figures had been provided but it was not clear where these related to and different floor level figures were provided in the OLEMS. It was also understood that some cut and fill would be required on the site but details of this were not clear.

- 26.3.6. The Councils noted that the outline design principles did not include a clear commitment to reducing the overall size of the substations and the height of the buildings and equipment during the design refinement process post consent. This was of vital importance given the significant effects identified and the significant concerns expressed.
- 26.3.7. Further, that although the commitment within the document to continued engagement with Parish Councils, local residents and the relevant authorities on the design and landscape proposals on the design and landscape proposals was welcomed, this must be more than a single consultation. Good design is a process which the key stakeholders, particularly the affected local community, should be part of. The Councils therefore wished for the outline document to be updated to provide a more detailed outline of the engagement proposed. This would provide greater transparency and articulate in outline form, the process through which the local community would be involved, and at which stages in the design process this would be.
- 26.3.8. In terms of the NG infrastructure the worst-case option presented is considered by the Applicant to be the use of AIS technology. The Councils supported the design of a NG substation which would minimise its detrimental impacts on the surrounding environment and local community. In the absence of a detailed assessment on the use of GIS technology in the NG substation, the Councils could in principle see benefits associated with the use of GIS technology. The Councils supported the use of a NG GIS at Friston in preference to the use of a NG AIS.
- 26.3.9. Neither the design principles nor the OLMP [APP-584] adequately considered the potential for future development. NG had clearly shown that the substation proposed under this application would provide a strategic connection offer for future projects. The OLMP or an alternative masterplan document should therefore address the potential future expansion needs of the NG substation at the very least.
- 26.3.10. Natural England (NE)[REP1-157] welcomed the reduction in the lateral spread of the proposed windfarm but considered that this reduction did not represent sufficient mitigation for the effects the scheme would cause on landscape and visual receptors and some special qualities of the Suffolk Coast & Heaths Area of Outstanding Natural Beauty (SCHAONB). They were of the view that the scheme did not constitute good design.
- 26.3.11. At Deadline 1 (D1), the Applicant introduced a non-material change to increase the minimum air-draught height of turbine blades from 22 metres above Mean High Water Springs (MHWS) to 24 metres above

MHWS. This change sought to provide mitigation for the cumulative and in-combination seabird collision risk impacts of the Proposed Development following concerns raised by NE [RR-059] and RSPB [RR-067]. Both NE [REP2-052] and the RSPB [REP8-105] welcomed the change in offshore design parameters but questioned why further increases in air-draught height were not possible. The ExA's discussion of this matter is set out in Chapters 18.4-18.5 and 24.4-24.5 of this Report.

- 26.3.12. Substation Action Save East Suffolk (SASES) [REP1-357] considered the parameters in the requirements in the dDCO to be unduly excessive and not justified and that there was no justification for excluding the NG substation from the design principles statement.

Deadline 2 (D2) Responses

- 26.3.13. At D2 ESC [REP2-028] suggested that a commitment for the cable ducting for the Proposed Development and the other East Anglia project to be installed at the same time would reduce temporary impacts on the local community and the environment and reiterated that all opportunities should be explored to minimise the footprint and heights of the infrastructure through consolidation and design refinement. They also noted that it is known that the NG substation is being treated as a strategic connection point for future energy projects, but the NG substation and overall site are not being designed to reflect this purpose.
- 26.3.14. SASES were of the view [REP2-060] that the power engineering and the aesthetic aspects of the substation design should be subject to a transparent 'peer review'. They were also of the view that the choice of AIS or GIS for the NG substation did not need to be left post-consent as NG have clear experience of both technologies.
- 26.3.15. A recurring theme at D2 from various Interested Parties (IPs) was anger and disappointment at the level of involvement of NG within the examination process (including but not limited to [REP2-084], [REP2-086], [REP2-090], [REP2-094], and [REP2-100]).

D2 Project Update Note

- 26.3.16. At D2 the Applicant submitted a project update note [REP2-007]. This confirmed various details, including that:
- Should the Proposed Development and the other East Anglia project be consented and built sequentially that when the first project goes into construction, the ducting for the second project would be installed along the whole of the onshore cable route in parallel with the installation of the onshore cables for the first project.
 - Works with the supply chain had enabled them to reduce the size of the proposed substation from 190m by 190m to 190m by 170m and revised siting to retain an established woodland area on the Proposed Development site (the 'wooded pit').

26.3.17. As referred to in Chapter 9, Seascapes, at D2 the Applicant submitted further information relating to the effects of the offshore windfarm on the SCHAONB [REP2-008].

Deadline 3 (D3)

26.3.18. At D3 the Applicant submitted a revised OLEMS [REP3-030] to take into account the design changes confirmed within the D2 project update note.

26.3.19. A further project update note was also submitted [REP3-052]. This included:

- The reduction in substation height (shown below), altering the maximum height of substation buildings to 14m above finished ground levels

Figure 1 Project update height changes [REP3-052]

Building / External Equipment	Building or External Equipment Height Presented within the Applications	Revised Maximum Building or External Equipment Height Committed to at Deadline 3	Notes
Harmonic filters	18m	14m	4m reduction in maximum height achieved
Statcom building	15m	12m	3m reduction in maximum height achieved
GIS building	15m	14m	1m reduction in maximum height achieved
Lightning protection masts	25m	20m	5m reduction in maximum height achieved

- Clarification of finished ground levels, allowing maximum heights AOD to be confirmed for substation buildings and equipment.
- Width of cable route working area to the woodlands to the east of Aldeburgh Road and for the crossing of the Hundred River were reduced.
- A change to foundation type for offshore platforms

26.3.20. Changes to the dDCO at D3 [REP3-011] included:

- The reduction in height of the offshore wind turbines from 300m to 282m, reducing the visible height/vertical scale visible from the SCHAONB [REP1-119]; and
- Night-time lighting of the offshore wind turbines to be operated at the lower permissible (aviation safety) lighting intensity.

26.3.21. ESC welcomed the commitment regarding the cable route ducting and commitment to reduce the footprint of the substation at D3 [REP3-093]. SASES considered that the proposal to reduce the footprint by 10% would have no effect on the impacts on the landscape or heritage [REP3-134], [REP3-135].

26.3.22. NE noted evidence on the effects of the offshore wind turbines on the SCHAONB submitted at D2 and considered that it would be considered highly unlikely that agreement would be reached between themselves and the Applicant unless a significant redesign of the scheme were to occur [REP3-120].

Later deadlines

26.3.23. ESC welcomed the height reductions and information outlined at D3 [REP4-059]. At Deadline 4 (D4) SASES noted [D4-104] that the proposed substation area remained substantially greater than the benchmark for similar substations documented by NGESO and compared the scheme to substations for Hornsea 1 and Rampion. The Applicant considered that Hornsea could not be used for a meaningful comparison due to it being a final as built solution and being designed differently, and stated that rectangular substations are the standard approach, and one which leads to space efficiencies [REP5-017].

26.3.24. A project update note submitted at D4 [REP4-026] included some additional planting to screen the NG substation to the south of Little Moor Farm. A heritage assessment addendum was submitted to incorporate changes in substation height and footprint from D3 [REP4-006].

26.3.25. A Substations Design Principles Statement (SDPS) was submitted at D4 [REP4-029]. This document:

- Proposed design parameters for both the Proposed Development and the NG substation to be secured by R12(5) of the dDCO.
- Made reference to the National Infrastructure Strategy and Design Principles for National Infrastructure.
- Referred to design evolution to date, including the OLEMS, changes to the footprint of the substation and estimated finished ground levels.
- Contained design principles. In summary these were to:
 - Include engagement with Parish Councils, local residents and relevant planning authorities.
 - Ensure feedback continues to influence the design.
 - Be informed by a design review with the Design Council (or similar).
 - Designate a senior business representative as the design champion.
 - Minimise visual impacts of the substations buildings.
 - Use planting to minimise visual effect and maximise screening opportunities.
 - Use bunds to support visual screening.
 - Enhance site public rights of way (PRoWs).

- Include the use of low maintenance ground cover species and return unrequired land to agriculture where feasible.
 - Incorporate ecological enhancement.
 - Optimise generation of renewable energy.
 - Contained a draft engagement strategy.
 - Rendered the Outline Onshore Substation Design Principles Statement redundant.
- 26.3.26. The SDPS was generally welcomed by ESC [REP5-048] but concern was raised over insufficient commitment to reduce the parameters of the substations post consent. SASES considered [REP5-097] that Design Council involvement was most useful for aesthetic purposes but did not extend to power engineering design. They maintained that the substation could be smaller and lower and raised questions over the proposed engagement strategy. They also considered that a maximum finished ground level would assist in design terms.
- 26.3.27. Suffolk County Council (SCC) [REP5-056] requested an additional design principle be included to reflect the need for the design of the Proposed Development to have regard to policy changes and technological advancements which may occur in between consent and detailed design work. They also raised concern over their experience of the “*slower and more cautious*” approach of NGET to supply chain engagement.
- 26.3.28. A revised OLEMS at Deadline 6 (D6) [REP6-007] committed the Applicant to the preparation of an onshore preparation works management plan, which would provide a mechanism for agreeing the extent of any early planting scheme. In response to ESC [REP6-026], the Applicant stated that it could not commit to a finished maximum ground level in advance of detailed design and that post consent design would also refine substation design. It noted ESC comments regarding an independent chair for the engagement events but considered it inappropriate to commit at this stage.
- 26.3.29. The Applicant also considered that the additional design principle recommended by SCC would not be appropriate, considering that many of the design criteria for the substation layout are relatively rigid, in order to comply with safety, maintainability and quality of supply obligations [REP6-027]. In response to SASES they considered it to be “*wholly inappropriate and unfeasible*” for power engineering oversight to be undertaken given the engineering and electrical safety standards and procurement processes involved.
- 26.3.30. Further revisions/reductions to the working area of the Hundred River crossing and the landfall area were confirmed at Deadline 7 (D7) [REP7-042].
- 26.3.31. At Deadline 8 (D8) a revised OLEMS [REP8-019] and SDPS [REP8-083] were submitted. Updates to the SDPS included significant areas of OLEMS content as well as an assessment of potential colours for the GIS substation. Also submitted at D8 were an impact appraisal of the possible extension of the NG substation appraisal [REP8-074] and accompanying

images as well as new photomontages showing a potential GIS NG substation [REP8-055 – REP8-063]. The extension appraisal briefly assessed the potential effects of extending the NG substation to accommodate future projects, namely the Nautilus and EuroLink proposals for interconnectors/transmissions cables to connect the UK to Belgium and the Netherlands respectively.

- 26.3.32. At Deadline 9 (D9) ESC submitted a review of the actions identified in the LIR [REP9-041]. This considered that the SDPS addressed ESC's request for a commitment to making every effort to reduce the size and scale of the substations during the post consent design refinement work and that R12 of the dDCO was satisfactory. The photomontages of the GIS NG substation option were not considered sufficient to fully compare the impacts of the two technologies. They also considered that while useful the NG substation extension appraisal did not comprise a full cumulative impact assessment (CIA). SASES [REP9-075] noted that the extension appraisal did not constitute a CIA and consider this to be a failure. They note that landfall options are not considered cumulatively.
- 26.3.33. At D9 SASES also submitted a comprehensive document [REP9-078] summarising their position with regards to good design. They were of the view that good design has not been achieved in a number of areas, including:
- Design Oversight – There should be an independent power engineering review of the Proposed Development.
 - Substation Rochdale Envelope – The current footprint and height of the substation was excessive and did not compare favourably with substations constructed for other schemes.
 - NG substation design – GIS heights were lower at other constructed schemes and NGET have confirmed that the NG substation represents a standard size of substation.
 - Landscape – The SDPS did not go far enough and a range of visualisations beyond the substation colour images should be produced for the community.
- 26.3.34. The Applicant agreed that the NG substation extension appraisal did not comprise a CIA [REP10-007] considering that there was insufficient information available to them to do so. It also restated its belief that a power engineering review was inappropriate in response to SASES [REP10-020], that comparisons between as built schemes and preliminary designs are misleading, provided information around NG schemes and anticipated that further landscape information would be submitted to the community post-consent.
- 26.3.35. On 13 May 2021 the ExAs issued a Rule 17 request [PD-042] for further information concerning the overall design and layout of the substations site under various scenarios. This requested plans to be submitted concerning: the Proposed Development developed alone, with NG substation options for GIS and AIS; the other East Anglia project developed alone, with NG substation options for GIS and AIS; and for both Proposed Developments with NG substation options for GIS and AIS.

- 26.3.36. [AS-122] (Response to Rule 17 Questions of 13 May – Design and Layout of the Substations’) formed the Applicant’s response to this request and confirmed that if only one proposal was consented then the eastern location would be used for the substation of the Proposed Development. This was due to various perceived advantages, including improved existing and proposed screening and increased separation distance from Friston.
- 26.3.37. At Deadline 11 (D11), the Applicant submitted a Landscape and Visual Impacts Assessment (LVIA) GIS Addendum [REP11-028] and a Heritage Assessment GIS Addendum [REP11-075] and accompanying photomontages. This compared the effects of a GIS or an AIS NG Substation in LVIA terms and concluded that, although there are clear differences, there was no material difference in the assessed levels effect from a NG GIS substation compared to a NG AIS substation during construction and operation. A revised SDPS was also submitted at this stage [AS-133].
- 26.3.38. At Deadline 12 (D12), the Applicant [REP12 034] confirmed in response to SASES comments [REP11-173] that it would be establishing a design panel for the Proposed Development, considering the SDPS to be robust in this regard with a design champion and the commitment to a design review. They also made further comments regarding potential height changes from harmonic filters and confidentiality issues for NG. Deadline 13 (D13) saw a final revision (v7) of the OLEMS [REP13-007].
- 26.3.39. Requirement 12 of the dDCO [REP12-013] concerns detailed design parameters onshore. This ensures that details of layout, scale, and external appearance of the onshore substation, the NG substation, and the SECs will be submitted to and approved by ESC (in consultation with SCC) prior to any works commencing and provides height and footprint restrictions, with R12(5) specifically securing the SDPS. Requirement 2 of the dDCO [REP12-013] covers detailed offshore design parameters and confirms that no wind turbine shall exceed 282m tall.

26.4. ExA RESPONSE

- 26.4.1. Unaccompanied Site Inspection (USI) 1 [EV-005] carried out on the 20 and 21 January 2020 enabled the ExA to view landscape and visual matters for the proposed landfall, much of the proposed cable route, and the substations’ site, as well as seascape effects. USI2 [EV-006] covered much of the same ground and USI3 [EV-007] also visited the substations site. USI4 [EV-007a], USI5 [EV-007b], and USI6 [EV-007c] specifically visited the Applicant’s seascape visualisation locations. Further USIs and Access Required Site Inspections were undertaken between 25 to 27 January 2021 [EV-007d]; these included visits to the substations site (in day and night-time) and surrounding properties. Cable route locations were also viewed during these visits.
- 26.4.2. Issue Specific Hearing (ISH) 2 [EV-034] considered onshore siting, design and construction including landfall, cable route and substations site proposals. ISH11 [EV-123] and ISH16 [EV-140] included discussions

over the interrelationship between drainage proposals on the proposed substations site and landscape impact and design matters and the relationship of drainage proposals with the OLEMS. Issues relating to good design, particularly in relation to substation design were a recurring theme in the Examinations and were raised by many IPs, both in writing and verbally at the ISHs and at OFHs.

- 26.4.3. ExQ1 [PD-018] are referred to above. ExQ2 [PD-030] asked further questions relating to the SDPS and design evolution.
- 26.4.4. The ExA response below proceeds through the topic based upon the requirements for good design within NPS EN-1, NPS EN-3, and NPS EN-5. This has been broken down by the ExA into the following two categories:
- Design evolution and process; and
 - Sustainable infrastructure, sensitive to place and an appearance that demonstrates good aesthetic as far as possible.

Design evolution and process

- 26.4.5. The Applicant's answer to ExQ2.0.12 [REP6-059] states that site selection is considered to be the first stage in the good design process. Chapter 4 of the ES, Site Selection and Assessment of Alternatives [APP-052] describes this process and is considered in Chapter 25 of this report.
- 26.4.6. Offshore, the layout of the windfarm site has not yet been specified due to required flexibility pending further ground investigation, detailed design and commercial negotiations [REP6-059].
- 26.4.7. However, the ExA notes that design evolution took place following the PEIR by the reduction in the northern extent of the Proposed Development and by the confirmation of reduced height of the proposed turbines during the Examination process. These changes sought to reduce effects upon the SCHAONB.
- 26.4.8. The increase in minimum turbine air-draught height to reduce potential collision risk impacts on some seabird species is also an example of design evolution.
- 26.4.9. For the onshore cable route, design evolution took place prior to submission through the decision to underground cables as opposed to overhead lines. During the Examination process, the commitment to install cable ducting for the Proposed Development and the other East Anglia project at the same time and changes to the width of working areas in sensitive areas evolved.
- 26.4.10. The design process was most clearly evident in the Examination process for the substations' site, with original application design documents such as the Design and Access Statement [APP-508] and the Outline Onshore Substations Design Principles Statement (OOSDPS) [APP-585] being made redundant by the increasing provisions of the OLEMS and the submission of the SDPS.

- 26.4.11. NPS EN-1 states that Applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved (paragraph 4.5.4). While Chapter 4 of the ES demonstrates how the site was selected, there is limited information over how the proposed design evolved once the site was selected. The application OLEMS helps in this regard but the lack of a specific good design chapter from the ES is considered by the ExA to be an omission.
- 26.4.12. However, notwithstanding this consideration, it is considered that the documents submitted, and the changes made to the Proposed Development, both offshore and onshore during the Examination process provided information to bridge this gap and consequently it is clear to the ExA how the design of the Proposed Development evolved.
- 26.4.13. The Applicant noted the nature of the Rochdale Envelope approach and its value in providing flexibility for evolution and refinement of project design within the assessed maximum extent [REP1-105]. The ExA do not recognise the reference to NPS EN-1 and its link to good design in this context but appreciate that the assessment of maximum extents using the Rochdale Envelope approach can leave flexibility for design refinements post consent.
- 26.4.14. On the other hand, it can be difficult for IPs to understand and comprehend what is, or may be, proposed, given that design can change, even if 'for the better', post consent. The ExA consider that differing options have in the main been considered and demonstrated by the Applicant during the design process for the Proposed Development. Where the ExA disagree with this is indicated below.
- 26.4.15. The design principles contained within the SDPS [AS-133] seek to ensure that, moving forward, the visual impact of the Proposed Development is reduced and that a design review is undertaken. Appendix A of the SDPS [AS-133] outlines an Engagement Strategy with the local community post-consent.

Sustainable infrastructure, sensitivity to place, and good aesthetics

Offshore

- 26.4.16. The design of the proposed turbines offshore has been altered during the application process to reduce the height of the proposed turbines, from 300m to 282m and a change has been made to the lighting to minimise visual impact at night. However, NE consider that due to the technology choice selected for use in the worst-case scenario, and noting that smaller turbines are available, the requirements for 'good design' as set out in NPS EN-1 have not been fully applied in the design of the Proposed Development. At ISH8 NE considered that the reduction in height to the wind turbines to 210m and removing the first row of turbines could overcome such harm and result in good design.
- 26.4.17. In Chapter 9, Seascapes, the ExA have concluded that while the proposed wind turbines would cause significant effects to seven of the 18

special qualities of the SCHAONB, the Proposed Development would not undermine the statutory purpose of the Area of Outstanding Natural Beauty (AONB) and would not compromise the purposes of designation.

26.4.18. The ExA note the views of the Applicant that [REP6-053] reducing the height of the turbines further would not result in the delivery of efficient technology throughout the lifetime of the consent. While noting the concerns of NE, the ExA consider that a reduction of the height of the turbines to the extent coupled with the removal of the first row of turbines is unfeasible.

26.4.19. In Chapters 18.5 and 24.5 of this Report, the ExA has concluded that it has been demonstrated that the increase in minimum air-draught height would offer collision risk benefits for the Proposed Development, which would reduce its contribution to the cumulative and in-combination effects on seabirds. The ExA has accepted the Applicant's case that further increases could jeopardise the technical feasibility and commercial viability of the Proposed Development due to the particular characteristics of the site. In this sense, the ExA is satisfied that the Applicant has made reasonable endeavours to design the offshore infrastructure in a way that is sensitive to the constraints and features of the site.

Landfall and cable route

26.4.20. The ExA consider that the choice of technology for landfall (horizontal directional drilling(HDD)) and the burying of the cable route in general demonstrate good design. The changes and commitments during the Examination process to minimise working width in sensitive areas and to install cable ducting for the Proposed Development and the other East Anglia project at the same time will help to minimise cumulative environmental impacts and will, in general, help to maintain the quality of the area, despite temporary effects and landscape effects around Fitches Lane (see chapter 7).

26.4.21. The route of the onshore cable corridor was influenced by the location of designated sites, specifically the Sandlings SPA and the Leiston-Aldeburgh SSSI. The project design minimises the overlap of the onshore cable corridor with these designated sites, crossing the SPA at the narrowest point and within habitat where no records of ornithological target species were found.

Substations' site

26.4.22. The selection of GIS technology for the Proposed Development substation sought to minimise the footprint of the proposed substation and conceal switching equipment. The ExA agree that for this substation GIS would have the least visual impact but also note concerns over the potential climate change impact of the gases used to insulate the switching equipment raised by the Right Honourable Dr Thérèse Coffey MP [RR-225].

- 26.4.23. The selected site for the proposed substation, while avoiding international and national local landscape designations would still have a significant impact on the local landscape (see Chapter 7). The ExA notes in this respect the acknowledgement in NPS EN-1 that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.
- 26.4.24. The design of the proposed substation was refined during the Examination process, with the total footprint of the substation being reduced and the heights of key equipment and buildings being lowered. Floor levels were also refined.
- 26.4.25. Such measures assisted in the achievement of good design. However, other options were seemingly not always fully explored. For instance, alterations to separate further the substation for the Proposed Development and that of the other East Anglia project, which could have lessened effects on heritage assets such as the Pilgrims Path, Church of St Mary and Little Moor Farm were not considered in any real depth. Likewise, the potential for substations to be anything other than rectangular in shape, such as examples of the irregular shaped substation for Rampion provided by SASES [REP4-104], potentially reducing landscape and heritage harm, were not appraised fully in the view of the ExA (Applicant's answer to SASES [REP5-017] and answer to ExQ1.10.5 [REP1-115]).
- 26.4.26. The OLEMS and its inbuilt OLMP [REP13-007] evolved through the Examination to become a more detailed and useful document. More planting was proposed and the change in substation footprint allowed more existing screening to be retained. The ExA does note however, that while such screening would provide benefits to visual receptors, the change from a fairly open landscape to a more enclosed one does have consequential adverse effects on the local landscape and the setting of nearby heritage assets.
- 26.4.27. The submission of the SDPS [AS-133] and the changes made to it during the Examination would be useful in improving the design aspects of the Proposed Development. In the view of the ExA this document, coupled with the OLEMS [REP13-007] and R12 of the dDCO would provide a reasonable foundation for design matters should the Proposed Development be consented.
- 26.4.28. However, the ExA does note the concern of SCC and ESC regarding the lack of a further design principle to reflect the need for the design of the Proposed Development to have regard to policy changes and technological advancements. The ExA have some sympathy with this view. If the Proposed Development were to be consented, then there is little guarantee of the timing of the completion of the proposal and there seems little harm in incorporating the SCC proposed principle. Such a principle could have been incorporated into detailed design and the ExA is not convinced regarding the Applicant's stated reasons [REP6-027] for not incorporating the principle.

- 26.4.29. Much of the Applicant's evidence on design stresses the importance of post consent design work and the positive impacts this can have on site design in terms of footprint, scale, mass and design. The ExA consider that such a principle could still be made to work within the necessary safety, maintainability and quality of supply obligations and would not fetter the Applicant unnecessarily. However, the ExA accepts that SCC and ESC would be able to consider the impact of policy changes and technological advancements in its determination of the detailed design.
- 26.4.30. In relation to other views on the SDPS, the ExA agree that an independent power engineering review, as requested by SASES is not entirely reasonable or necessary. The SDPS [REP11-047] and the principles therein should ensure that the design of the substation is improved where feasible (subject to the comments above). The future engagement plans within the SDPS are helpful and would deliver benefit, as would the commitment to a Design Review Panel (or similar).
- 26.4.31. The application of the SDPS [AS-133] (and the OLEMS and OLMP [REP11-047]) to the NG substation are beneficial. However, in other areas the design of the NG substation did not progress to the extent of the proposed substation at Work No 30. The design and location of the substantial Sealing End Compounds (SECs) also remained unchanged. GIS options were produced by the Applicant, but this option may be redundant given the response of NG to ExQ2 [REP6-110], in which given NGET's clear preference to reduce greenhouse gas emissions and to work within the Electricity Act to keep costs to a minimum it appears highly unlikely that a GIS option would be chosen.
- 26.4.32. In relation to flooding, following the close of the Examination, the revised NPPF was published which altered the sequential approach to include all sources of flooding. Without prejudice to any conclusions the SoS may make on this matter, the ExA consider that the Applicant has demonstrated in the OODMP [REP13-020] that flood risk during the operational phase of the Proposed Development can be satisfactorily mitigated and accommodated by SuDs basins within the order limits. The final design of the SuDs basins would be undertaken during the detailed design phase.
- 26.4.33. The NG substation occupies a significant area of land and when coupled with the SECs has the potential to affect a large area of landscape character and the setting of various heritage assets. The fact that the design of this aspect of the scheme has essentially not altered is to be regretted. The more direct input of NG into the examination process concerning design matters could have improved such matters. However, the inclusion of the NG substation and the SECs within the SDPS and the provisions of R12 of the dDCO [REP12-013] would ensure that the design of these areas of electrical infrastructure would be refined post-consent, in line with the onshore substation.
- 26.4.34. The NG substation appraisal [REP8-074] is a high-level document which although useful does not comprise a CIA, as agreed by the Applicant

[REP10-020]. In reaching their conclusions the ExA have not placed any weight on this appraisal.

Cumulative Impacts

Cumulative Impacts with the other East Anglia application

- 26.4.35. The increase in air-draught height was brought forward as mitigation for potential ornithological impacts of the Proposed Development cumulatively (and in-combination) with other plans and projects, including the other East Anglia application. The implications of this change in offshore design parameters is considered earlier in this Chapter and in Chapters 18 and 24 of this Report.
- 26.4.36. The ExA's consideration of cumulative effects on red-throated diver and in-combination effects on the OTE SPA has had regard to the change to the offshore Order limits for East Anglia ONE North made during the Examination. The ExA's consideration of those matters is set out in Chapters 18.5 and 24.5.
- 26.4.37. The design of the onshore elements of the other East Anglia project mirrored that of the Proposed Development and as such no further cumulative impacts in respect of good design are identified. Offshore, the height of the turbines was also reduced in line with those of the Proposed Development. Cumulatively it is considered that good design has been shown for the two projects combined.

26.5. CONCLUSIONS

26.5.1. The ExA have concluded:

- The ExA views the absence of a specific ES good design chapter as a significant omission, but notwithstanding this it considers that the Examination process has bridged this gap and by the end of the Examination it was clear to the ExA how the design of the Proposed Development evolved and how it will proceed post-consent.

Offshore

- Good design has been demonstrated with regard to changes to offshore design parameters that increase the minimum air-draught of turbines.
- Good design has been demonstrated in respect of landscape and visual amenity but harm to the SCHAONB is acknowledged.

Landfall and Cable Route

- Good design has been demonstrated in respect of landscape and visual amenity.
- Reduced working widths would be implemented in sensitive locations and the route of the cable corridor has been influenced by designated sites. Therefore, the ExA consider that good design has been adequately demonstrated with respect to onshore ecology.

Substations

- The selected site for the proposed substation (Work No. 30) would have a significant impact on the local landscape. Good progress with the design of the proposed substation took place during the Examination process and key measures and documents (SDPS, OLEMS, OLMP) were introduced and refined and secured through R12 of the dDCO. Not all options were explored however, and some design options would be likely to have adverse impacts of their own.
- The SDPS could have been improved with the incorporation of the proposed SCC design principle relating to design having regard to policy changes and technological advancements.
- The design of the NG substation and SECs did not progress during the Examination and this is to be regretted. However, the incorporation of the NG substation and the SECs in the SDPS and OLEMS and the provisions of R12 of the dDCO would ensure that design matters progress post-consent.
- Without prejudice to any decision the SoS may make in relation to the sequential or exception test, the ExA consider that flood risk would be adequately mitigated by a sustainable drainage system (SuDs) scheme during the operational phase
- However, the ExA notes the acknowledgement in NPS EN-1 that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area. Given this the ExA consider that the Proposed Development would be as attractive, durable and adaptable as it can be.

26.5.2. Drawing all these facts together, the ExA concludes that:

- Harm to the SCHAONB is acknowledged and more options could have been usefully considered for the substation design and the lack of changes or alterations to the proposed NG substation and SECs is to be regretted. However, given post consent provisions secured within R2 and R12 of the dDCO, the Proposed Development would be as attractive, durable and adaptable as it can be and complies with paragraph 4.53 of NPS EN-1.
- The Proposed Development complies with NPS EN-1 but the reservations above mean that a low negative weighting is to be carried forward in the planning balance. However, it is acknowledged that the design process going forward contained within the dDCO [REP12-013] and the SDPS [AS-133] has the ability to create a good design outcome.

27. FINDINGS AND CONCLUSIONS IN RELATION TO OTHER OVERARCHING MATTERS

27.1. INTRODUCTION

27.1.1. This Chapter sets out the ExA's conclusions on overarching matters that require to be considered by the Secretary of State (SoS) as part of the decision-making process, but which address the totality of evidence put before the Examination. They are:

- Transboundary considerations;
- The Public Sector Equality Duty (PSED); and
- Human rights and the Human Rights Act 1998.

27.1.2. The conclusions here draw on evidence and reasoning in all preceding chapters in this report.

27.2. TRANSBOUNDARY CONSIDERATIONS

27.2.1. The Environmental Statement (ES) contains an assessment of the transboundary effects of the Proposed Development [APP-456], which considers the effects of the Proposed Development alone, cumulatively with the other East Anglia project, and with Norfolk Vanguard West, Norfolk Boreas, Norfolk Vanguard East, East Anglia THREE, East Anglia ONE, East Anglia TWO and the Galloper and Greater Gabbard OWFs.

27.2.2. Transboundary screening and consultation has been undertaken pursuant to under Regulation 32 of the 2017 Environmental Impact Assessment (EIA) Regulations. Transboundary consultation responses were received from:

- Denmark [OD-003] which had no comment;
- France [OD-004] which raised a wish to participate but from whom no further contributions have been received;
- the Netherlands [OD-005] which asked to be informed of progress and a Relevant Representation (RR) was received from the state entity Rijkswaterstaat [RR-066] and considered within the Examination; and
- Sweden [OD-006] which sought an extension of time, but from whom no further contributions have been received.

27.2.3. Three transboundary screenings have been carried out on behalf of the SoS by the Planning Inspectorate and all are recorded in a single transboundary screening document [OD-001]. The first screening was carried out on 26 June 2018 following the Applicant's request for a scoping opinion. The second screening was carried out on 16 December 2019 following submission of the application documents to the Planning Inspectorate. The third screening was carried out on 23 March 2021 during the Examination.

- 27.2.4. During the Examination, the ExA explored the matter of the Applicant's consultation with EEA states in its first written questions (ExQ1) [PD-018], to which Rijkswaterstaat (The Netherlands) [REP1-179] and the Applicant [REP1-107] both responded. The Applicant also referenced the RR from Rijkswaterstaat [RR-066], which raised ornithological matters that in the opinion of the Applicant were subsequently agreed upon [REP1-054]. The conclusions of no significant effects on the ornithological receptors discussed was not contested in Rijkswaterstaat's responses to ExQ1 [REP1-179]. On this basis, the ExA concludes that there are no outstanding transboundary matters for consideration, whether arising from RRs or from transboundary consultation responses received up to the point of the submission of this report.
- 27.2.5. The third transboundary screening (23 March 2021) [OS-001] addressed the application as submitted and amended during the Examination period, referring particularly to habitats regulations assessment (HRA) matters addressed in Chapter 24 of this report. It also covered the period of the UK withdrawal from the European Union (EU) and took account of retained EU law under the European Union (Withdrawal) Act 2018 (EUWA). It should be noted that the 2017 EIA Regulations and the transboundary screening and consultation processes form part of the body of retained EU law. It concluded on behalf of the SoS that the Proposed Development is not likely to have a significant effect on the environment in an EEA State.
- 27.2.6. The ExA confirms that no new matters have arisen in the period between the third transboundary screening and the submission of this report that would give rise to any need to amend that conclusion, which it adopts for the purposes of this report.

27.3. PSED

Legislative background

- 27.3.1. Section 1 of the Equality Act 2010 requires public authorities, when making decisions of a strategic nature, to have due regard to the desirability of reducing inequalities of outcome. The SoS is a public authority by virtue of Schedule 19 of the Equality Act 2010.
- 27.3.2. Sections 4 to 12 of the Equality Act 2010 identify and define nine protected characteristics:
- age (a particular age or age group);
 - disability (physical or mental with a substantial and long term adverse effect on ability to carry out normal day-to-day activities);
 - gender reassignment (a transsexual person);
 - marriage and civil partnership;
 - pregnancy and maternity;
 - race (including colour, nationality and ethnic or national origins);
 - religion or belief (including a lack of religion or belief);
 - sex; and
 - sexual orientation (towards persons of the same sex, persons of the opposite sex or persons of either sex).

27.3.3. Reference may be made both to persons who have a particular protected characteristic and to those who share a particular protected characteristic.

27.3.4. In respect of the advancement of equality, Section 149 of the Equality Act 2010 places a duty (the PSED) on public authorities to have due regard to the need to

- Eliminate discrimination, harassment, victimisation and any other prohibited conduct; and
- Advance equality of opportunity and foster good relations between those who share a particular protected characteristic and those who do not.

The Applicant's case

27.3.5. Following a request from the ExA at Compulsory Acquisition Hearing (CAH) 1, the Applicant submitted a Public Sector Equality Statement [REP4-013] at Deadline 4 to assist the SoS in discharging its PSED in respect of the application.

27.3.6. In the Public Sector Equality Statement [REP4-013], the Applicant summarised the relevant baseline information and provided its assessment of the impacts of the authorised project against the relevant Equality Act 2010 requirements and objectives.

27.3.7. The Applicant concluded that *"No differentiated or disproportionate impacts on groups with protected characteristics under the Equalities Act 2010 are predicted as a result of any phase of the Project ..."*. [REP4-013].

Planning issues

27.3.8. The Applicant maintained its position throughout the Examination that:

- no significant impacts have been predicted on any current use of land which the Applicant intends to acquire compulsorily because no people or groups with protected characteristics have been identified for the purposes of the Equality Act 2010;
- agreeing bespoke mitigation measures justifies screening land use out of further assessment because, with the exception of the substation site and some landscaping and ecological mitigation sites, which is all agricultural land, the land is not residential, is only required temporarily and can return to its former use post construction;
- there will be no significant impacts on Wardens Trust because
 - further studies show that horizontal directional drilling (HDD) can readily be used through an aquifer;
 - the Applicant's hydrogeological risk assessment has noted the sensitivities of the Wardens Trust and concluded that the risks to the water supply would be negligible;
 - the Applicant has also offered to provide a backup water supply for the duration of the HDD works; and

- the Applicant has identified the Wardens Trust as a receptor where enhanced mitigation would apply including reduced speed limit (10 miles per hour (mph)) and a 16.1metres (m) working width.

27.3.9. At CAH3 [EV-127] the ExA requested that the Applicant clarify in writing:

- why no significant impacts have been predicted on any current use of land which the Applicant intends to acquire compulsorily;
- how agreeing bespoke mitigation measures via (presumably individual) consultation with affected landowners justifies screening land use out of further assessment; and
- why there will be no significant impacts on the activities of the Wardens Trust and what measures the Applicant is discussing with the Trust in order to assist the SoS in discharging the SoS's PSED obligations.

The Applicant responded [REP8-093] as follows:

- The Applicant has assessed the owners and occupiers of all land that could be acquired compulsorily and has not identified any groups with protected characteristics for the purposes of the Equality Act 2010;
- With the exception of the substation site and some landscaping and ecological mitigation sites, which is all agricultural land, the land is not residential and only required on a temporary basis and can return to its former use post construction;
- In respect of the aquifer,
 - the Applicant undertook further studies which show that HDD can readily be used through an aquifer [REP6-024];
 - the Applicant undertook a landfall hydrogeological risk assessment [REP6-021] which noted the sensitivities of the Wardens Trust and concluded that the risks to the water supply would be negligible;
 - the Applicant has also offered to provide a backup water supply for the duration of the HDD works;
 - the Applicant has identified the Wardens Trust as a receptor where enhanced mitigation would apply, including reduced speed limit (10 miles per hour (mph)) and a 16.1metres (m) working width.

27.3.10. Tessa Wojtczak made a written submission at Deadline 8 [REP8-248] summarising her concerns that the PSED has not been met in regard to the users of Wardens, and that there will be differential or disproportionate impact to protected groups, with reference to the assessment in the Applicant's Public Sector Equality Statement [REP4-013] in respect of:

- The particular location;
- Air quality;
- Water resources and flood risk;
- Noise and vibration;
- Traffic and transport: access and emergencies;
- Human health; and
- Tourism, recreation and socio-economics: Wardens Trust as a community asset.

The Applicant responded as follows [REP9-025], making reference to and confirming its position in its Public Sector Equality Statement [REP4-013]:

- Air quality mitigation measures have been agreed with East Suffolk Council (ESC) and Suffolk County Council (SCC) to be referred to collectively as (the Councils);
- Water resources and flood risk mitigation has been agreed with the Environment Agency and the Councils;
- The mitigation and management measures for construction and operational noise have been agreed with the Councils;
- There is no significant impact on emergency service response times and access will be maintained;
- All matters relating to human health have been agreed with the Councils through the Statement of Common Ground (SoCG) [REP8-114]; and
- The Applicant is aware of Wardens Trust and has been in discussion with agents instructed by the Wardens Trust trustees since 2018.

ExA Response

- 27.3.11. The ExA is satisfied that ample opportunity has been provided in the Examination for oral or written representations to be made by any Interested Party (IP) wishing to do so, and has given particular consideration to submissions from Tessa Wojtczak and from the Applicant, including its Public Sector Equality Statement. The ExA is satisfied with the Applicant's assessment and responses.

Conclusions

- The ExA concludes that there is no evidence of any differentiated or disproportionate impacts on groups with protected characteristics, and that impacts will be of low significance and neutral weight in the planning balance.

27.4. HUMAN RIGHTS

- 27.4.1. The ExA has considered whether the Proposed Development engages the Human Rights Act 1998 and has formed the view that it does in the following respects.

- In respect of Article (Art) 6 (the right to a fair trial with reference to a civil proceeding), the ExA has provided all IPs and particularly all in respect of whom other potential human rights effects might be argued to arise, with a right to participate fully in the Examination.
- In some cases, the effect of the Proposed Development would be to interfere with the right to respect for private and family life under Art 8, arising from impacts on homes arising mainly from construction but in some circumstances from the transformation of a home environment during operation.
- In some cases, the effect of the Proposed Development is that there would be interference with peaceful enjoyment of possessions (homes and land) in contravention of Art 1 of the First Protocol, arising from the Compulsory Acquisition (CA) and temporary possession (TP) of

land and rights and the nature of the works and some ongoing operations proposed to be conducted on that land.

27.4.2. Matters relevant to CA and TP are considered further and concluded upon separately in Chapter 29 of this report.

27.4.3. In relation to the balance of effects arising from construction, operation and decommissioning, on the basis of the findings in relation to the planning merits of the Proposed Development in Chapters 5 to 26 of this report the ExA finds that the wider public interest in achieving the substantial and timely renewable energy benefits of the Proposed Development does justify interference with the human rights of any of the owners and residential occupiers affected them.

27.5. CONCLUSIONS

27.5.1. The ExA has concluded:

- In terms of transboundary effects, the Proposed Development has been screened on behalf of the SoS as not likely to have a significant effect on the environment in an EEA State. Nothing has arisen in Examination or Reporting that gives cause to amend that conclusion or that requires specific consideration as part of the SoS' consideration of the planning balance.
- In terms of the PSED, the ExA has complied with its duty and considers that on the analysis of the planning merits set out in this Report, the SoS can decide this application and comply with the PSED.
- In terms of human rights, whilst there are elements of the Proposed Development that engage and interfere with rights under Art 8 and Art 1 of the first protocol of the ECHR (Human Rights Act 1998 Sch 1), interference with those rights is justified in the public interest.
- These matters have low significance and neutral weight in the planning balance.

THE PLANNING BALANCE

- Chapter 28: Conclusions on the Case for Development Consent

28. CONCLUSIONS ON THE CASE FOR DEVELOPMENT CONSENT

28.1. INTRODUCTION

- 28.1.1. The designated NPS EN-1 (Overarching Energy), NPS EN-3 (Renewable Energy) and NPS EN-5 (Electricity Networks Infrastructure) as designated in July 2011 provide the primary basis for making decisions on development consent applications for renewable energy OWF NSIPs in England by the Secretary of State (SoS), in circumstances where amendments to the onshore transmission network are proposed. The ExA's conclusions on the case for development consent in respect of the application have therefore been reached in large part within the context of the policies contained in these NPSs. Regard has been had to the MPS and to important and relevant considerations arising from other policy sources including the Development Plan. However, in reaching the conclusions set out in this Chapter, the ExA has taken all other relevant law and policy into account.

28.2. THE MAIN ISSUES

- 28.2.1. The ExA's conclusions on the effects of the Proposed Development and its performance against relevant policy and legislation are summarised below, drawing on the analysis of planning considerations set out in detail in Chapters from 5 to 27.
- 28.2.2. The main planning merits issues in the Examination were as follows:

Initial Analysis

- Chapter 5: Need

Onshore Analysis

- Chapter 6: Flooding and Drainage
- Chapter 7: Landscapes and Visual Amenity
- Chapter 8: Onshore Historic Environment
- Chapter 9: Seascapes
- Chapter 10: Onshore Ecology
- Chapter 11: Coastal Physical Effects
- Chapter 12: Onshore Water Quality and Resources
- Chapter 13: Noise, Nuisance and Health Effects Onshore
- Chapter 14: Transport and Traffic
- Chapter 15: Socio-economic Effects Onshore
- Chapter 16: Land Use
- Chapter 17: Other Onshore Matters

Offshore Analysis

- Chapter 18: Offshore Ornithology
- Chapter 19: Marine Mammals
- Chapter 20: Other Offshore Biodiversity Effects

- Chapter 21: Marine Physical Effects and Water Quality
- Chapter 22: Offshore Historic Environment
- Chapter 23: Offshore Socio-economic and Other Effects

Overarching Analysis

- Chapter 24: Habitats Regulations Assessment
- Chapter 25: Alternatives
- Chapter 26: Good Design
- Chapter 27: Other Overarching Matters

28.2.3. The primary findings in relation to those issues were as follows.

- The Examination identified very substantial concerns about the adverse effects of the transmission system connection location and development onshore. Adverse effects arising from the proposed landfall and onshore cable corridors were widely raised, but the substantial focus of many submissions was on the selection of the transmission system connection point near the village of Friston, the degree to which that proposed site was suitable for the proposed use and development and to which adequate mitigation had been proposed.
- Part of that concern also related to the scope for possible future development accommodating further transmission system connections at the Friston site. Whilst any such future development will need to be considered on their merits, great care will be needed not to harm the mitigation measures that have made the Proposed Development possible on this site.
- Matters of most substantial concern in that regard related to the onshore topics of flooding and drainage, landscape and visual amenity, onshore historic environment and overarching matters around good design.
- The Examination identified that offshore biodiversity and HRA impacts were also of substantial concern, leading (in respect of HRA) to findings that there would be adverse effects on the integrity (AEoI) of certain European sites.
- The Examination identified a broad range of effects from the Proposed Development relevant to most main issues that were beneficial, neutral, or if the effects were adverse, they were capable of appropriate mitigation.

28.2.4. Full consideration has been given to the joint LIR provided by SCC and ESC [REP2-075] (the host authorities).

- The local authorities jointly raised concerns about detrimental effects in relation to matters including landscape and visual amenity, heritage assets, noise, PRowS and flood risk (amongst others).
- The LIR highlights that whilst effects arising from these particular matters are significantly adverse for the Proposed Development alone and cumulatively with the other East Anglia project and that mitigation at the outset of Examination did not appear to those authorities to be sufficient, mitigation can be delivered. They urged upon the Applicant the importance of improving mitigation during the

Examination process and on the ExA and the SoS the need to form a careful and balanced judgment on the degree to which mitigation was sufficient.

28.3. THE PLANNING BALANCE

- 28.3.1. Conclusions are drawn here in relation to the planning balance which are of particular relevance to the consideration of PA2008 s104(2) (the application of NPS and MPS policy and of all other important and relevant considerations), s104(3) (conformity with NPS policy) and, s104(7) (the balance to be struck between the benefits and the adverse effects of the Proposed Development).
- 28.3.2. Conclusions are carried forward from each of the Chapters considering planning merits itemised in Section 2 of this Chapter. For each Chapter, the ExA has reached a summary **conclusion on weight** for the proposes of the planning balance.
- 28.3.3. Weight can be **positive** (weighing for), **neutral** (of no effect) or **negative** (weighing against) a decision to make the DCO. Where weight is not neutral, then a significance qualifier is used to indicate whether weight is **high, medium** or **low** on the positive or negative side of the balance. This standard terminology is applied here and through the Report.
- 28.3.4. Detailed findings in respect of each of the main issues are set out below.

Initial Analysis

28.3.5. Need

- The carbon and climate benefits of the Proposed Development are matters that the ExA accords high positive weight in favour of the Proposed Development.
- The policy framework in force at the time of writing supports the immediate delivery of policy compliant development. That being said, the ExA does recommend to the SoS that, if relevant policy changes relating to carbon and climate benefits emerge before the decision is taken, including outcomes from the BEIS Offshore Transmission Network Review and/ or the NPS EN Suite Review, then these should be the subject of consultation with the IPs and the re-evaluation of these findings as required.
- Due to a significant change in the sequential approach set out in the revised NPPF (July 2021), and as the parties have not had the opportunity to comment on, it cannot be concluded that the Proposed Development satisfactorily passes the Sequential or Exception Test. Whilst this is a flood and drainage relevant finding (see below) the tendency towards increased frequency and scale of extreme rainfall events makes it important to address this point as a climate change response.

Onshore Analysis

28.3.6. **Flooding and Drainage**

- For guidance on flood risk, NPS-EN1 refers to PPS25 or its relevant successor documents which are now the NPPF and PPG. The revised NPPF was published in July 2021 and contains a significant change on the sequential approach which should now take account of all sources of flooding.
- As this change in approach came into effect after the close of the Examination, the ExA are unable to reach a conclusion on whether the Proposed Development satisfactorily passes the Sequential or Exception Test.
- For these reasons, if the SoS is minded to make an order based on that attached as Appendix D, the ExA recommends that it should be subject to further consultation with IPs during the decision period and that representations made on the potential implications of the change in policy approach should be taken into account by the SoS before a decision is made.
- There is insufficient evidence to enable a conclusion to be reached on the most appropriate return period to be utilised for the design of the construction surface water drainage scheme and to ensure that there would be sufficient space within the order limits to accommodate such a return period. The ExA are not therefore satisfied that flood risk can be satisfactorily managed during construction.
- For these reasons, if the SoS is minded to make an order based on that attached as Appendix D, the ExA recommends that it should be subject to further consultation with the LLFA during the decision period and that representations made should be taken into account by the SoS before a decision is made.
- Without prejudice to any decision the SoS may make in relation to the sequential or exception test, the ExA is satisfied that that there would be no significant effects on flood risk during the operation stage on the basis of the secured OODMP in accordance with NPS-EN1. In arriving at this view, the ExA has taken into account the evidence of the relevant statutory advisors and other IPs with specialist flood risk expertise, including SASES.
- Drawing these matters together the ExA concludes that the potential increased flood risk during construction carries a high negative weighting in the planning balance.

28.3.7. **Landscapes and Visual Amenity**

Landfall and Cable Route.

- The ExA agrees that during construction the Proposed Development would cause short term significant harm to the local landscape around the proposed landfall site and to the area of the cable route in the Hundred River Valley SLA and around Fitches Lane. During operation the ExA considers that the reinstatement proposals would cause harm to the landscape character of the Hundred River Valley SLA and area around Fitches Lane, as well as local visual harm to relevant receptors.

Substations' site

- The ExA do not consider that the 'embedded mitigation' of modern farm buildings at Red House Farm or the existing pylons significantly reduce the quality of the landscape and agree that the Proposed Development would have a significant adverse effect on the local landscape at 15 years post construction.
- The ExA consider that the submitted photomontages are realistic enough to be able to gauge the potential impacts of the Proposed Development and that the growth rates and aftercare management/maintenance of mitigation planting are realistic and appropriate.
- The ExA agree with the assessments of harm to visual effect contained within the ES Addendum [REP4-031], apart from to residents at VP4 where the ExA considers significant harm would be caused. The ExA also consider that significant harm would be caused to visual receptors at CHVP4.
- The ExA consider the viewpoints confirm that the site itself is already fairly well screened when viewed from a distance but that in closer views, at areas around the site and specifically in the area between Fristonmoor and Friston, views are significantly impacted, and that the Proposed Development would have a highly significant effect on this area of land and would effectively divorce Friston from its northerly satellite.
- Harm to local landscape and relevant receptors is increased by the proposed National Grid substation and SECs. Such harm would likely not be altered significantly either way by the use of AIS or GIS technology. In particular the height and positioning of the SECs would cause harm to northerly landscape character and visual receptors.
- Drainage proposals and the access road would add to the harm caused by the Proposed Development to the landscape character of the local area.
- During construction significant harm would be caused to the character of the landscape and significant adverse effects would be caused to visual aspects to similar levels as during the operation of the Proposed Development.

Cumulative effects

- The ExA agree that the cumulative effects of the Proposed Development and the other East Anglia application combined will be the same for construction and operation for the landfall site and the cable route as for the Proposed Development on its own. In this respect, the conclusions of the ExA on the effects of the cable route around Fitches Lane above are noted.
- For the substations site, the ExA agree with the conclusions of the LVIA Addendum [REP4-031] in terms of significant visual effects for viewpoints 2, 4, 5, 8 and 9. Harm would be increased to residents to the south of Friston (VP9) from that of a singular project.
- The cumulative effects of the two schemes would exacerbate the adverse effects of the singular scheme for landscape character.
- The Applicant cannot commit to construct the substations for the two schemes at the same time. Were the schemes to be constructed sequentially then construction effects would be significantly worsened by virtue of the longer construction period.

- For the other East Anglia application and Sizewell C the ExA agrees that cumulative effects with Sizewell C would be confined to walkers on local paths close to the landfall and on the relevant areas of the cable route in relevant areas.
- The extension of National Grid Substation Appraisal [REP8-074] demonstrates a significant worsening of potential adverse effects for relevant viewpoints and for landscape character. The extension of the NG substation would intensify and worsen the effects of the Proposed Development on both the local landscape and on visual receptors. Such an effect would be added to in an unknown way by the provision of required surface water drainage.

Overall Conclusions

- The ExA conclude that the Proposed Development has been designed as carefully as possible and therefore complies with paragraph 5.9.17 of NPS EN-1. Nevertheless, significant harm would occur to the landscape and the proposal would not protect and enhance the special qualities of the area or the visual relationship and environment around Friston and Fristonmoor and as such the proposal would be contrary to Policy SCLP10.4 of the Suffolk Coastal Local Plan.
- The harm caused to the landscape by the Proposed Development has a medium negative weighting to be carried forward in the planning balance.
- Cumulative effects with the other East Anglia application increase this harm.
- The medium weighting is arrived at in recognition of the levels of significant harm that the Proposed Development would cause to the landscape and settlement pattern between Friston and Fristonmoor. This harm is at the higher end of the scale but the fact that the local landscape is not nationally designated means that this weighting does not tip into a high weighting.
- In reaching the above conclusions the ExA has not considered the Extension of National Grid Substation Appraisal [REP8-074], noting that the Applicant acknowledges that the Appraisal is “environmental information” and is not intended to comprise a Cumulative Impact Assessment [REP10-020].

28.3.8. Onshore Historic Environment

Construction

- The ExA agree that minor adverse impacts will arise to below ground identified features in the landfall location; minor adverse or negligible effects will arise to identified features on the cable route; and minor adverse effects or negligible effects will arise to identified features in the substations’ site.
- The ExA agrees that minor adverse or negligible effects will arise to identified above ground features in the landfall location and minor adverse effects will arise to identified features on the cable route and in the substations’ site.
- The ExA agree that indirect effects to heritage assets would be temporary and would not give rise to material harm.

- The ExA agree that effects relating to potential geoarchaeological/paleoenvironmental remains and impacts from potential spillages would be minor adverse.
- The ExA consider the outline WSI and provisions within the draft DCO acceptable and satisfactory to mitigate harm levels to the above levels.

Operation

- The ExA agrees that material harm would not be caused to the significance of Aldringham Court, to Friston Post Mill, or to the setting of coastal heritage assets.
- The ExA considers that less than substantial harm would be caused to the significance of Friston House, Woodside Farmhouse, High House Farm, Little Moor Farm, the Church of St Mary, and to Friston War Memorial. Harm would be at low, medium and high levels.
- The ExA considers that substantial harm would be caused to the 'Pilgrim's Path' (Non-designated heritage asset).
- The ExA agree that there would be no meaningful difference in heritage impact between the adoption of an NG AIS or GIS substation.
- The ExA agrees that impacts no greater than those identified for the construction phase can be expected for the decommissioning phase.

Cumulative effects

- The ExA considers that construction effects will not alter cumulatively from that of the Proposed Development.
- Cumulative harm would be increased to Woodside Farm, Little Moor Farm, the Church of St Mary, and to the Friston War Memorial. Such harm would not increase above the harm levels identified for the Proposed Development. Substantial harm would remain to the 'Pilgrim's Path'.
- The ExA agree that minor cumulative harm would be caused to sub-surface and above ground archaeological remains / heritage assets and that cumulative harm would be caused to indirect impact resulting from change in the setting of heritage assets.
- For the potential NG extension and based on the limited information provided the ExA consider that cumulative effects would be increased to Little Moor Farm, the Church of St Mary, Friston War Memorial, Friston House, Woodside Farmhouse and High House Farm.

Overall conclusions

- The ExA has had regard to the desirability of preserving the settings of the identified Listed Buildings and any features of special architectural or historic interest which they possess. Harmful impacts on the significance of various designated heritage assets have been identified, as well as to a non-designated heritage asset. NPS EN-1 requires such harm to be weighed against the public benefits of development – this assessment is carried out in Chapter 28, the Planning Balance.
- Harm caused to the onshore historic environment has a medium negative weighting to be carried forward in the planning balance.

- Cumulative effects with the other East Anglia application increase this harm.
- Medium levels of harm are found as opposed to high due to the fact that harm to heritage assets has been found to be less than substantial. However, for several heritage assets the harm within this scale is at the higher end (including to a Grade II* listed building) and there would be substantial harm to a non-designated heritage asset. The ExA consider therefore that harm within the medium level of harm is at the top end of the scale.
- In reaching the above conclusions the ExA has not considered the Extension of National Grid Substation Appraisal [REP8-074], noting that the Applicant acknowledges that the Appraisal is “environmental information” and is not intended to comprise a Cumulative Impact Assessment [REP10-020].

28.3.9. **Seascapes**

- The SLVIA assessment produced by the Applicant conforms with NPS EN-1.
- The ExA agree with the conclusions of the ES for seascape and landscape impacts; significant adverse effects will take place during construction, operation and decommissioning to the character of SCT 03 Nearshore waters, Area A Kessingland to Orford Ness and to the character of LCT05 between Southwold and the north side of Orford Ness; and to the Covehithe to Benacre and Easton Bavents area and the Dunwich Heaths/Cliffs areas of LCT 07.
- The ExA agree with the conclusions of the ES that significant adverse effects will occur to the following special qualities of the SCHAONB: Landscape Quality – intactness of the landscape; Scenic Qualities – A distinctive sense of place; Striking landform – sea cliffs and shingle beaches; Appeal to the senses – large open vistas; Relative Wildness – A sense of openness; and Expansive views offshore. In addition, the ExA conclude that significant adverse effects will also occur to the following special qualities of the SCHAONB: Landscape Quality – Influence of Incongruous Features; and Relative Tranquillity – Distractors from tranquillity.
- The ExA agree with the conclusions of the ES that significant adverse effects will occur visually to some receptors at Covehithe, Southwold, Gun Hill Southwold, Walberswick, Dunwich, Dunwich Heath and Beach, Minsmere Nature Reserve, Coastal Path between Thorpeness and Sizewell, Thorpeness, and Aldeburgh. In addition, the ExA conclude that significant adverse visual effects will also occur to the receptors at viewpoints at Sizewell Beach and Orford Ness.
- The ExA agree with the conclusions of the ES that significant adverse visual effects will occur to some receptors at viewpoints within the settlements of Southwold, Thorpeness, and Aldeburgh.
- The ExA agree with the conclusions of the ES that significant adverse visual effects will occur to receptors on the following sections of the Suffolk Coast Path: Section 4 Southwold, Section 5 Walberswick and Corporation Marshes, Section 6 Dunwich Forest and Heath, and Section 8 Thorpeness. In addition, the ExA conclude that significant

adverse visual effects will also occur to receptors on Section 7 of the SCP (Minsmere Sizewell).

- The ExA agree that the other East Anglia application will not contribute significantly to the significant cumulative effects of the two offshore wind farms combined. The ES assessment of cumulative effects with the other East Anglia application, subject to the changes where detailed above for the Proposed Development, is appropriate.
- While the ExA have found significant effects would occur to seven of the 18 special qualities of the SCHAONB, the Proposed Development would not undermine the statutory purpose of the AONB and would not compromise the purposes of designation.
- On the basis of the evidence provided the ExA is unable to conclude that the S111 contribution meets the relevant tests applicable for planning obligations and does not ascribe weight to the agreement.
- The SLVIA Assessment produced by the Applicant complies with the requirements of NPS EN-1 and NPS EN-3. The Proposed Development would cause harm to the SCHAONB but would not reach the threshold of compromising the purposes of designation of the AONB.
- The harm caused to the SCHAONB by the Proposed Development has a medium negative weighting to be carried forward in the planning balance.
- The medium weighting is arrived at in recognition of the levels of significant harm that the Proposed Development will cause to the SCHAONB. This harm is at the higher end of the scale but the ExA's conclusions that the purposes of designation of the SCHAONB would not be undermined by the Proposed Development mean that this weighting does not tip into high.

28.3.10. **Onshore Ecology**

- The impacts of the Proposed Development on onshore ecology would largely result from the construction phase of the Proposed Development. Most, but not all, of the matters in this regard are agreed in the final SoCGs between the Applicant and NE [REP8-108] and the Applicant and ESC/SCC [REP8-114].
- The assessment methodology used by the Applicant, including the habitats and species considered as being likely to be present, is appropriate.
- The Applicant has adequately demonstrated that areas of wet woodland and hairy dragonfly habitat would not be affected by the Proposed Development alone or cumulatively.
- In terms of species there is a likelihood of adverse impacts on badgers, bats, GCN and potentially reptiles during the construction phase. With the exception of bats for which there would be a moderate adverse short-term impact, none of the impacts identified for species would be greater than minor adverse in the short-term and reducing to negligible in the longer-term.
- There would be the loss of some areas of woodland, lengths of hedgerow and individual trees, with resultant ecological impacts. Nevertheless, the ExA considers that with the provision of the proposed planting and other mitigation measures then such impacts

on these features and habitats would be limited in duration and scope and therefore would be minor adverse.

- The Proposed Development would give rise to short-term minor adverse impacts on the LASSI and the Hundred River.
- The Proposed Development would give rise to minor adverse impacts on ecological receptors as a result of noise, lighting and emissions.
- Cumulative impacts on onshore ecology would arise as a result of the other East Anglia project and potential NG substation extensions rather than any other plans or projects. Cumulative impacts would be greater than for the project alone but not to a significantly adverse degree.
- The proposed areas of ecological enhancement would not be sufficient overall to outweigh the adverse impacts on habitats and species that have been identified, particularly in the short-term due to the construction operations.
- The ExA cannot ascribe an overall positive impact in terms of onshore ecology to the Proposed Development. However, the mitigation measures, if successful, would mean that the impacts on onshore ecology would be reduced to an acceptable level. Consequently, the ExA considers that in regard to onshore ecological matters the Proposed Development would comply with the relevant parts of NPS EN-1, and also with Policy SCLP10 of the ESCSCLP.
- Taken together, the ExA concludes that the impacts on onshore ecology of the Proposed Development alone and cumulatively would be negative in weight and of low significance overall. This means that a low negative weighting for this matter is carried forward into the planning balance.

28.3.11. **Coastal Physical Effects**

- The effects of the Proposed Development on coastal processes have been adequately assessed and mitigated.
- There would be no significant cumulative effects on coastal processes
- Relevant NPS and MPS policy tests are met.
- This issue is a neutral consideration in the overall planning balance.

28.3.12. **Onshore Water Quality and Resources**

- The effects of the Proposed Development on water quality and resources have been adequately assessed and mitigated.
- There would be no significant cumulative effect on water quality and resources.
- Relevant NPS tests are met.
- This issue is a neutral consideration in the overall planning balance.

28.3.13. **Noise, Nuisance and Health Effects Onshore**

- The ExA is in broad agreement with both the methodology and assessment of noise impacts arising during construction. The ExA therefore concludes that construction noise impacts are capable of satisfactory mitigation.
- In respect of operational noise impacts, having considered the application documents and representations, submission by the

Applicant of various documents including an Onshore Substation Operational Noise Assessment [REP5-022] and an Expert Report on Noise [REP7 041], and the subsequent discussions between the parties, the ExA concludes that important and relevant differences remain unresolved in the context of industrial sound sources introduced to Friston, a tranquil location with dark skies: however, notwithstanding the differences of opinion, the ExA is satisfied that the Requirements in the dDCO must nevertheless be met, and consequently the ExA concludes that operational noise impacts can be satisfactorily mitigated.

- The application includes a new National Grid connection substation which is now included in the cumulative assessment along with the other East Anglia project. The ExA therefore finds that adequate account has been taken of cumulative noise impacts.
- Drawing these findings together, the ExA acknowledges the concerns expressed by the local community about the change to the noise climate and concludes that the Proposed Development may have adverse noise impacts, particularly during operation on receptors close to the proposed substation and National Grid infrastructure at Friston. These operational impacts may cause permanent harm and are therefore of medium significance, weighing negatively in the planning balance.
- The ExA concludes that impacts on air quality arise only during construction and is in broad agreement with both the methodology and assessment of impacts.
- Following commitments made in respect of the Stratford St Andrew AQMA, the ExA finds that adequate account has been taken of cumulative air quality impacts.
- The ExA notes that reliance is placed by the Applicant on its ability to satisfy particular air quality requirements in the dDCO at a future date. However, the ExA concludes that there is no reason why these requirements are not capable of being met.
- Drawing these findings together, the ExA concludes that the Proposed Development will have adverse air quality impacts during construction, but these impacts will be temporary and adequately mitigated and are therefore of low significance and negative weight in the planning balance.
- The ExA concludes that the potential for adverse light pollution impacts to arise is chiefly at the substation site during construction.
- The ExA notes that there is no formal assessment of light pollution impacts but is in broad agreement with the material submitted and that any adverse impacts are capable of satisfactory mitigation through Requirement 22 and Requirement 25 in the dDCO.
- The ExA notes that there is no cumulative assessment of light pollution but is satisfied that any cumulative impacts will be negligible.
- Drawing these findings together, the ExA concludes that the Proposed Development will have minor adverse impacts in respect of light pollution, both during construction and operation, but these impacts are capable of satisfactory mitigation and are therefore of low significance and negative weight in the planning balance.

- The ExA concludes that the potential for human health issues to arise is chiefly before and during construction.
- The ExA is in broad agreement with the material submitted in the application and that any adverse impacts on human health are capable of satisfactory mitigation, particularly through Appendix 3 of the Outline Code of Construction Practice, submitted during the Examination and secured by Requirement 22 in the dDCO.
- The ExA notes that there is a limited cumulative assessment of human health but is satisfied that any cumulative impacts will be negligible.
- Drawing these findings together, the ExA concludes that the Proposed Development may have minor adverse impacts on human health, both before and during construction, but these impacts are capable of satisfactory mitigation and are therefore of low significance and negative weight in the planning balance.
- The ExA finds that the provisions in respect of nuisance in the application are satisfactory.

28.3.14. **Transport and Traffic**

- The ExA concludes that impacts all relate to the construction phase of the project and that there are no significant impacts during operation.
- The ExA concludes that the Applicant's investigation into the available modes of transport for construction traffic is satisfactory.
- The ExA concludes that the Applicant's selection of Lowestoft as preferred base port and Felixstowe as reserve in case Lowestoft is unavailable is satisfactory, as is the Applicant's assessment of port related traffic.
- The ExA concludes that the Applicant has taken all reasonable steps to minimise transport of AIL by road and that the Applicant's proposals in respect of port selection and movement of AIL are satisfactory, but that a great deal of careful planning will be required to minimise AIL impacts on the highway and on those affected.
- In respect of the potential AIL works at Marlesford, the ExA concludes that the Applicant should consider giving notice of its intentions to local people, and particularly the affected landowners, at the earliest opportunity, as part of its communications strategy.
- The ExA concludes that impacts of construction traffic on the local highway network have been minimised and that concerns about the suitability of the A1094 for HGV can be adequately addressed through the CTMP secured in Requirement 28 of the dDCO.
- The ExA concludes that the Applicant's proposals to install traffic signals at the A12/A1094 junction will address the issue of HGV traffic turning right from the A12 to the A1094 without significant rerouteing or delay to other traffic.
- In respect of HGV in Aldeburgh making the manoeuvre between the A1094 and the B1122, the ExA concludes that these manoeuvres can be properly controlled so as not to cause significant problems.
- Drawing these findings together, the ExA concludes that the Proposed Development will have adverse transport and traffic impacts during construction, particularly during transport of AIL and in respect of HGV on the A1094 and at Aldeburgh, but that provided that robust

and effective controls are in operation, these adverse impacts are capable of being satisfactorily managed and minimised; however, these impacts will nevertheless cause harm, albeit temporary, and are therefore of medium significance and negative weight in the planning balance.

28.3.15. **Socio-economic Effects Onshore**

- The ExA finds that the Proposed Development will deliver a significant number of jobs during construction, both onshore and more significantly offshore. The majority of offshore jobs are likely to come from outside the area.
- A large number of jobs would be provided during operation and would be mainly within Suffolk and Norfolk.
- Such jobs are likely to have wages above the national average and would consequently have wider benefits.
- The MoU would help to maximise the education, skills and economic benefits of the Proposed Development and will add to the economic benefits of the proposal.
- The construction of the Proposed Development would cause harm to the local economy, including to tourism, particularly around the proposed substation site, cable route, and landfall area. The ExA comes to this view following assessment of the evidence submitted during the Examination. Such negative effects are likely to be significantly reduced during operation (once the Proposed Development is constructed).
- In the round it is considered that the socio-economic benefits of the Proposed Development would outweigh the disbenefits, particularly in the long term. This may not be the case in the immediate vicinity of the Proposed Development.

Cumulative effects

- If constructed simultaneously with the other East Anglia application economic benefits would increase substantially while disbenefits would remain at a similar level. If constructed sequentially then economic benefits would increase but disbenefits would likely double due to the increase in time of the overall construction period,
- Should the East Anglia applications be constructed alongside Sizewell C there would be large scale significant economic benefits. Disbenefits would also rise significantly with issues of wider construction impact having more of a detrimental impact on local tourism.
- Therefore, a simultaneous programme of construction with the other East Anglia application would provide greater socio-economic benefits. A sequential programme of construction would reduce socio-economic benefits.

Overall Conclusions

- The Proposed Development would provide socio-economic benefits. This provides positive weight for the Proposed Development. Likely socio-economic disbenefits reduce this positive weighting to medium.
- If constructed simultaneously with the other East Anglia application this weight would increase or reduce if constructed sequentially. Both

weights would remain medium. Weighting would be similar if constructed simultaneously with Sizewell C.

- The ES accords with the requirements of NPS EN-1 and would comply with policy SCLP4.5 of the Suffolk Coastal Local Plan. Harm to tourism causes conflict with policy SCLP6 of the same plan but this would be outweighed by the positive socio-economics effects of the proposed development.

28.3.16. **Land Use**

- Following submission by the Applicant of its Land Use Clarification Note, the ExA concludes that the methodology and assessment of impacts arising both during construction and operation is satisfactory, and consequently that the local impact of agricultural land taken out of existing use permanently is major adverse and therefore significant.
- Due particularly to the close proximity of the construction works to both Thorpeness Common and Sizewell Common, the ExA concludes that the construction impact on common land is greater than negligible.
- The ExA concludes that physical disruption to PRow and farming practices has been taken into account and can be properly mitigated.
- The ExA notes that suitable connection points to the existing overhead line are limited, but concludes that limited weight has been given by the Applicant to the quality of the agricultural land required for the onshore substation and National Grid infrastructure in the site selection process, and consequently concludes that the justification for the loss of best and most versatile agricultural land at the proposed substation and National Grid infrastructure site is weak in respect of the policy test in paragraph 5.10.15 of NPS EN-1.
- Drawing these findings together, the ExA concludes that the Proposed Development will have adverse impacts on land use, particularly on agricultural land to be taken out of use permanently, which would cause permanent harm and therefore be of medium significance and negative weight in the planning balance.

28.3.17. **Other Onshore Matters**

- There are no other matters that bear on the planning balance onshore.

Offshore Analysis

28.3.18. **Offshore Ornithology**

- The ExA considers that the ES, taken together with the additional clarification material submitted during Examination, presents an adequate assessment of the potential effects on offshore ornithology from both the Proposed Development alone and cumulatively with other proposals, including the other East Anglia Application.
- The ExA agrees with the view expressed by the Applicant and agreed by NE that there would be no significant adverse impacts on offshore

ornithology for any species as a result of the Proposed Development alone.

- On a cumulative basis, the ExA has found that, contrary to the Applicant's assessment, a significant adverse impact could not be ruled out for the Proposed Development when considered cumulatively with other plans and projects for the following species:
 - Kittiwake (collision), regardless of whether H4, DEP and SEP are included;
 - GBBG (collision), regardless of whether H4, DEP and SEP are included;
 - Guillemot (displacement), regardless of whether H4, DEP and SEP are included;
 - Razorbill (displacement), regardless of whether H4, DEP and SEP are included; and
 - Red-throated diver (displacement), regardless of whether H4, DEP and SEP are included.
- The ExA has concluded that, in line with the Applicant's assessment, there would be a minor adverse cumulative impact on:
 - LBBG (collision), regardless of whether H4, DEP and SEP are included; and,
 - Gannet (collision, and collision plus displacement), regardless of whether H4, DEP and SEP are included.
- The ExA has found a negligible cumulative impact on:
 - Gannet (displacement), regardless of whether H4, DEP and SEP are included; and,
 - Herring gull (collision), regardless of whether H4, DEP and SEP are included.
- These conclusions take account of the mitigation measures forming part of the project design, including the Applicant's increase in minimum turbine draught heights to 24m above MHWS.
- Since some of the ExA's findings in relation to cumulative ornithological impacts take into account predicted mortalities from OWF projects that had not been submitted prior to the close of this Examination, the ExA recognises the possibility that the ornithological data may be subject to change, through revised estimates for those projects. As a general principle, should updated ornithological data for the proposed H4, DEP or SEP projects be in the public domain (for example, through the submission of DCO applications) before the SoS has reached a decision on the Proposed Development, then the ExA has identified this as a matter upon which the SoS may deem it necessary to carry out further consultation.
- In addition to this general point, the ExA has identified the following specific areas in which the SoS may wish to request clarification or the views of IPs prior to making a decision in respect of the Proposed Development:
 - An updated version of [REP13-019] from the Applicant that addresses the discrepancies highlighted by NE in [REP13-048] and

discussed by the ExA (in Chapter 18), providing cumulative figures relating to herring gull, GBBG and gannet; and

- Focussed consultation on an updated version of [REP13-019] (with NE and RSPB), since it was submitted at the final Examination deadline (D13).
- In terms of monitoring, the ExA has found that the final IPMP [REP8-027] provides a sound framework for the finalisation of ornithological monitoring plans, as required by the conditions of the DMLs, which will focus on RTD displacement effects at the OTE SPA and collision impacts on seabirds in the post-construction phase.
- The ExA is satisfied that the Applicant's assessment of potential effects on ornithological receptors outside of the UK as a result of the Proposed Development is adequate and that the initial concerns expressed by Rijkswaterstaat were satisfactorily addressed before the conclusion of the Examination.
- The ExA is content that the provisions of NPS EN-1 and NPS EN-3 have been satisfied and that all relevant legislative and policy tests for this topic have been met. In coming to this view, the ExA has taken into account the evidence of the relevant statutory advisors (NE and the MMO) and other IPs with specialist ornithological expertise, including the RSPB. The ExA has also had regard to the joint LIR [REP1-132] and considers that insofar as it relates to the onshore sites that might support seabird populations, there is no conflict with policy SCLP10.1: Biodiversity and Geodiversity of the Suffolk Coastal Local Plan (September 2020).
- In considering the weight that should be afforded to the significant adverse effects identified above, the ExA has had regard to the precautionary nature of the cumulative impact assumptions and the fact that for some species this is based on potential data uncertainties regarding the H4, DEP and SEP applications that had not been submitted by the end of this Examination. The ExA has also had regard to NPS EN-1 which states that decisions on NSIPs should take account of the context of the challenge of climate change and the recognition that a failure to address this challenge would result in significant adverse impacts to biodiversity. Paragraph 5.3.6 of NPS EN-1 states that *"the benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests"*.
- Overall, the ExA concludes that the effects on offshore ornithology are a medium negative consideration to be carried forward into the overall planning balance.

28.3.19. **Marine Mammals**

- The ExA takes the view that the case has been made for the inclusion of UXO clearance activities within the DMLs for the Proposed Developments. The relevant draft Conditions from [REP12-013] are included without amendment in the ExA's rDCO.
- The ExA considers that the ES, taken together with the additional clarification material submitted during Examination, presents an adequate assessment of the potential effects on marine mammals

from both the Proposed Development alone and cumulatively with other proposals, including the other East Anglia Application.

- It is the ExA's view that there is the potential for minor adverse residual effects on marine mammals as a result of the Proposed Development. These effects relate principally to the disturbance effects of underwater construction noise on harbour porpoise, grey seal and harbour seal. There is also the potential for PTS and TTS from cumulative sound exposure level for all three species due to underwater noise effects in the operation stage.
- On a cumulative basis with other developments, the ExA finds that there is the potential for minor adverse residual effects on harbour porpoise, grey seal and harbour seal during the construction and operational stages due to underwater noise from piling and other noise sources, changes to prey resources and vessel interaction (collision risk).
- The ExA considers that a suitable package of mitigation measures has been secured by the end of the Examination, including embedded mitigation such as soft start piling, the requirement for approval of MMMPs and SIPs prior to construction and the ability to stop piling should monitoring indicate that assessed noise thresholds have been exceeded.
- The ExA is therefore satisfied that the methods of construction for the offshore elements of the Proposed Development have been designed so as to reasonably minimise significant disturbance effects on marine mammals. It is also clear to the ExA that mechanisms have been put in place to secure suitable noise mitigation measures in the conditions of the draft DMLs [REP12-013].
- As a result, the ExA is content that the provisions of NPS EN-3 have been satisfied and that all relevant legislative and policy tests for this topic have been met. In arriving at this view, the ExA has taken into account the evidence of the relevant statutory advisors and other IPs with specialist ecological expertise, including TWT and WDC. There are no matters of direct relevance to the effects on marine mammals raised through the joint LIR [REP1-132].
- Overall, the ExA concludes that the effects on marine mammals are a low negative consideration to be carried forward into the overall planning balance.

28.3.20. **Other Offshore Biodiversity Effects**

- The residual impacts on benthic ecology for the Proposed Development alone and cumulatively would be predominantly minor adverse, but also with some negligible impacts.
- The impacts on fish and shellfish ecology for the Proposed Development alone and cumulatively would be predominantly minor adverse, with some negligible impacts and a slightly beneficial impact due to predicted changes in fishing activity.
- No marine designated sites would be adversely affected by the Proposed Development and there would be no other offshore biodiversity effects of significance beyond those specifically discussed in this and other Chapters of this Report.

- The Proposed Development alone and cumulatively would comply with all relevant policy and legislation tests in relation to offshore biodiversity effects, including NPS EN-1, NPS EN-3, MPS and EIEOMP.
- Overall, the ExA concludes that the offshore biodiversity effects of the Proposed Development alone and cumulatively would be negative in weight and of low significance overall. This means that a low negative weighting for this.

28.3.21. **Marine Physical Effects and Water Quality**

- The effects of the Proposed Development in terms of marine geology, oceanography and physical processes are broadly negligible and relevant policy is met.
- The effects of the Proposed Development in terms of marine water and sediment quality effects are broadly minor adverse and relevant policy is met.
- This means that a low negative weighting for this matter should be carried forward into the overall planning balance.

28.3.22. **Offshore Historic Environment**

- The Applicant has adequately provided the required information and the Proposed Development complies in this respect with Policy statements EN1, EN3, and with Policy SOC2 of the East Inshore and East Offshore Marine Plans.
- The proposed mitigation and the provisions of the Offshore WSI will ensure that the Proposed Development will not cause harm to known heritage assets throughout the lifetime of the project, although there is an inevitable risk during construction, operation and decommissioning that harm may be caused to potential heritage assets.
- While indirect impacts to heritage assets from changes to physical processes will not likely occur during construction or decommissioning due to the presence of the AEZs, minor harm is likely to occur to such assets from physical processes caused during the operation of the Proposed Development from the presence of the infrastructure proposed.
- The setting of marine heritage assets and of the HSC would be harmed in a minor way by the presence of the Proposed Development.
- It is not possible to avoid heritage assets that have not yet been discovered and therefore although reduced by mitigation there is a risk that harm will arise to potential heritage assets cumulatively with the other East Anglia Application.
- The large-scale archaeological assessment of geophysical and geotechnical survey data and the opportunities that this could lead to has the potential to have a positive effect.
- The change from a largely open seascape to a more industrialised one would cause harm to the wide-open expanses of the HSC. While noting the capacity of this seascape to accept change, the ExA consider such cumulative change to cause harm.
- The Proposed Development could cause harm to unknown heritage assets, would likely cause harm to known heritage assets through

physical processes during the operation of the Proposed Development and would cause harm to the setting of marine heritage assets and the character of the HSC. Cumulatively harm would be caused to unknown heritage assets and on the character of the HSC. Such harm identified would not be outweighed by the positive effects of the proposal on the expansion of marine archaeological knowledge and as such harm of a low negative weighting is to be carried forward in the planning balance.

28.3.23. **Offshore Socio-economic and Other Effects**

- For fishing, with mitigation in place, the Proposed Development would not cause harm.
- For shipping and navigation, with mitigation in place, the Proposed Development will achieve at least a reduction of navigational risk to ALARP.
- For aviation, due to the mitigation inherent within agreed Requirements 13, 34 and 35, the Proposed Development would not cause harm to aviation safety.
- Therefore, with the relevant mitigations assigned and secured, an overall neutral weight on this matter will be carried forward to the planning balance.

Overarching Analysis

28.3.24. **Habitat Regulations Assessment**

28.3.25. It should be noted that whilst the findings made in respect of all matters other than HRA are formal findings of the ExA, the SoS is the competent authority for HRA purposes. The observations set out here are to assist the SoS in that task but do not have the same formal standing as the findings in the remainder of this Chapter.

- The Proposed Development is not directly connected with, or necessary to, the management of a European site, and therefore the implications of the Proposed Development with respect to adverse effects on the integrity (AEOI) of potentially affected European sites must be assessed by the SoS.
- A total of 185 European Sites and their qualifying features were considered in the Applicant's assessment of LSE. Table 24.2 of this Chapter lists those where the Applicant considered there was potential for LSE. The European sites subsequently screened into the Applicant's assessment are shown in Annex 1 of the Applicant's report '5.3 Habitats Regulations Assessment - Information to Support Appropriate Assessment' [APP-043], Figures 1 to 5. These figures have been reproduced in Section 24.1 of this Chapter.
- The methodology and outcomes of the Applicant's screening for LSE on European sites was subject to some discussion and scrutiny, however, the sites and features for which LSE were identified were not disputed by any IP. The ExA is satisfied that the correct European sites and qualifying features have been identified for the purposes of

assessment, and that all potential impacts which could give rise to significant effects have been identified.

- The Applicant's conclusions are that there would be no AEOI on any site from the Proposed Development alone or in-combination taking into account the Conservation Objectives for the qualifying features concerned. The Applicant's conclusions were disputed by IPs for the following sites and qualifying features and were the subject of discussion during the Examination:
 - Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
 - Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);
 - Guillemot (breeding);
 - Razorbill (breeding);
 - Seabird assemblage;
 - Outer Thames Estuary SPA - Red-throated diver (non-breeding);
 - Southern North Sea SAC - Harbour porpoise;
 - Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding).
- The Applicant's HRA Report and accompanying submissions have been considered carefully, along with the evidence and submissions discussed in this Chapter in order to form the ExA's assessment of the Proposed Development's implications for European sites.
- The ExA's findings are that, subject to the mitigation measures secured in the rDCO, AEOI from the Proposed Development **can be excluded** from **project-alone** effects for:
 - Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
 - Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);
 - Guillemot (breeding);
 - Razorbill (breeding);
 - Seabird assemblage;
 - Outer Thames Estuary SPA – Red-throated diver;
 - Southern North Sea SAC - Harbour porpoise;
 - Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding).
- The ExA finds that AEOI from the Proposed Development **in-combination** with other plans or projects **can be excluded** for:
 - Flamborough and Filey Coast SPA - Seabird assemblage;
 - Sandlings SPA - Nightjar (breeding);
 - Woodlark (breeding); and
 - Southern North Sea SAC – Harbour porpoise.
- The ExA finds that AEOI from the Proposed Development **in-combination** with other plans and projects **cannot be excluded** for:
 - Alde-Ore Estuary SPA and Ramsar - Lesser black-backed gull (breeding);
 - Flamborough and Filey Coast SPA - Gannet (breeding);
 - Kittiwake (breeding);

- Guillemot (breeding);
 - Razorbill (breeding);
- Outer Thames Estuary SPA – Red-throated diver (non-breeding).
- During the Examination, the Applicant submitted a 'without prejudice' assessment of alternative solutions, a case for IROPI, and proposed a suite of compensation measures. These matters were given substantial consideration throughout the Examination, and the Applicant continued to refine its case until Deadline 12.
- Having carefully considered all the submitted evidence, both in hearings and in writing, the ExA is satisfied that no feasible alternative solution currently exists that would represent a lesser adverse effect than the Proposed Development. Nevertheless, noting NE's position in its final advice [REP13-048] regarding alternative solutions, it remains possible that the detailed design process could achieve a greater turbine blade air-draught height and an increase to the buffer between the OTE SPA and the East Anglia ONE North array area. It remains unknown if these outcomes could result in lesser adverse effects on the affected SPAs.
- On the basis of the submitted material, the ExA is of the opinion that IROPI for the Proposed Development to proceed have been demonstrated.
- The ExA has given thorough consideration to the compensation measures presented during the Examination and the views of all parties. The findings of the ExA are that the compensation measures proposed for each species and the overall package, including the secondary measure related to ornithological by-catch reduction, are feasible and appropriate and are adequately secured in the rDCO/DML.
- The ExA considers that there is sufficient information before the SoS to enable an appropriate assessment to be undertaken, and if necessary, to apply the derogation tests of the Habitats Regulations of no alternative solutions and IROPI. The ExA also considers that there is sufficient information for the SoS to establish that appropriate compensatory measures could be implemented, in order to fulfil its duty under the requirements of the Habitat Regulations.
- Within this Report, the ExA has noted three areas within which the SoS may wish to seek further information to satisfy these duties, should they disagree with the ExA's reasoning. These are:
 - Whether avoidance of an AEOI on FFC SPA and Alde-Ore Estuary SPA and Ramsar could be achieved through an alternative design that increases turbine blade air-draught height, whilst also retaining a feasible and viable project;
 - whether avoidance of an AEOI on the OTE SPA could be achieved through an alternative design that increases the distance between the SPA and the Proposed Development to somewhere between 2km and 10km, whilst also retaining a feasible and viable project; and
 - whether the plans for the compensatory measures Steering Groups (secured by Schedule 18 of the rDCO), can be delivered (if required).

- The ExA's recommendations are made on the basis of the information before it at the close of the Examination. Should there be any relevant developments in respect of other plans or projects that may alter the in-combination picture, then the SoS may wish to invite comments from the parties on any implications for the Proposed Development.

28.3.26. **Alternatives**

28.3.27. It should be noted that whilst these findings are formal findings of the ExA, they are procedural in nature and do not have the same formal standing as the findings in the remainder of this Chapter. They do not affect the planning balance.

- The consideration of alternatives forms part of the HRA process in circumstances where an adverse effect on integrity (AEoI) has been found, where it is necessary to demonstrate that no alternatives exist that would cause lesser harm. The ExA is satisfied that the consideration of alternatives has been sufficient to inform any need to engage the 'no alternatives' test of the Habitats Regulations.
- The consideration of alternatives has been sufficient for EIA purposes and specifically, to enable site avoidance and or mitigation in relation to biodiversity and geological significance.
- The consideration of alternatives in relation to flood risk was sufficient in respect of the policy applicable at all times during the preparation and Examination of the Application. Additional considerations have recently arisen from changes to the NPPF and are addressed in Chapter 6, but broadly the ExA is content that technical means of resolving them within the Order land can be found.
- The consideration of transmission connection location and onshore cable alignment alternatives has contributed towards a reduction of the effect of the proposed development on the AONB (although that has occurred to a substantial extent by moving adverse effects to a location outside the designated area).
- The CION process has been carried out. The EA1989 duties were discharged. These processes were conducted at the Applicant's risk, but the ExA judges on balance that they were sufficiently delivered so as to be meaningful and to explain why the Applicant took the site selection decisions that it did.
- There is no legal or policy imperative for the consideration of emerging or possible alternatives, including the ORM or other means of coordinating the transmission system connection, or policy changes that might emerge to increase the weight on such approaches.
- In circumstances where a transmission connection location and alignment have been proposed in the Application which meets relevant tests in currently applicable policy, that must be considered.
- Should current policy change before the SoS makes a decision, the consideration of that change will be a matter for the SoS.

28.3.28. **Good Design**

- The ExA views the absence of a specific ES good design chapter as a significant omission, but notwithstanding this it considers that the Examination process has bridged this gap and by the end of the Examination it was clear to the ExA how the design of the Proposed Development evolved and how it will proceed post-consent.

Offshore

- Good design has been demonstrated with regard to changes to offshore design parameters that increase the minimum air-draught of turbines.
- Good design has been demonstrated in respect of landscape and visual amenity but harm to the SCHAONB is acknowledged.

Landfall and Cable Route

- Good design has been demonstrated in respect of landscape and visual amenity.
- Reduced working widths would be implemented in sensitive locations and the route of the cable corridor has been influenced by designated sites. Therefore, the ExA consider that good design has been adequately demonstrated with respect to onshore ecology.

Substations

- The selected site for the proposed substation (Work No. 30) would have a significant impact on the local landscape. Good progress with the design of the proposed substation took place during the Examination process and key measures and documents (SDPS, OLEMS, OLMP) were introduced and refined and secured through R12 of the dDCO. Not all options were explored however, and some design options would be likely to have adverse impacts of their own.
- The SDPS could have been improved with the incorporation of the proposed SCC design principle relating to design having regard to policy changes and technological advancements.
- The design of the NG substation and SECs did not progress during the Examination and this is to be regretted. However, the incorporation of the NG substation and the SECs in the SDPS and OLEMS and the provisions of R12 of the dDCO would ensure that design matters progress post-consent.
- Without prejudice to any decision the SoS may make in relation to the sequential or exception test, the ExA consider that flood risk would be adequately mitigated by a sustainable drainage system (SuDs) scheme during the operational phase
- However, the ExA notes the acknowledgement in NPS EN-1 that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area. Given this the ExA consider that the Proposed Development would be as attractive, durable and adaptable as it can be.

28.3.29. Drawing all these facts together, the ExA concludes that:

- Harm to the SCHAONB is acknowledged and more options could have been usefully considered for the substation design and the lack of changes or alterations to the proposed NG substation and SECs is to

be regretted. However, given post consent provisions secured within R2 and R12 of the dDCO, the Proposed Development would be as attractive, durable and adaptable as it can be and complies with paragraph 4.53 of NPS EN-1.

- The Proposed Development complies with NPS EN-1 but the reservations above mean that a low negative weighting is to be carried forward in the planning balance. However, it is acknowledged that the design process going forward contained within the dDCO [REP12-013] and the SDPS [AS-133] has the ability to create a good design outcome.

28.3.30. **Other Overarching Matters**

- In terms of transboundary effects, the Proposed Development has been screened on behalf of the SoS as not likely to have a significant effect on the environment in an EEA State. Nothing has arisen in Examination or Reporting that gives cause to amend that conclusion or that requires specific consideration as part of the SoS' consideration of the planning balance.
- In terms of the PSED, the ExA has complied with its duty and considers that on the analysis of the planning merits set out in this Report, the SoS can decide this application and comply with the PSED.
- In terms of human rights, whilst there are elements of the Proposed Development that engage and interfere with rights under Art 8 and Art 1 of the first protocol of the ECHR (Human Rights Act 1998 Sch 1), interference with those rights is justified in the public interest.
- These matters have low significance and neutral weight in the planning balance.

28.4. **OVERALL CONCLUSION ON THE CASE FOR DEVELOPMENT**

- 28.4.1. Because the Proposed Development meets specific relevant Government policy set out in NPS EN-1, NPS EN-3, and NPS EN-5, as a matter of law, a decision on the application in accordance with any relevant NPS (PA2008 S104 (2) (a) and S104(3)) also indicates that development consent should be granted unless a relevant consideration arising from the following subsections of the Act (PA2008 S104 (4) to (8)) applies.
- 28.4.2. The Proposed Development is also broadly compliant with the MPS. Regard has been had to the Marine Plans in force and again, the Proposed Developments broadly comply (PA2008 s104(2) (aa)).
- 28.4.3. Regard has been had to the LIR (PA2008 s104(2)(b), to prescribed matters (PA2008 s104(2)(c)) and to all other important and relevant policy (including but not limited to the Development Plan) and to other important and relevant matters identified in this Report (PA2008 s104(2)(d)).

- 28.4.4. In the ExA's judgement, the benefits of the Proposed Development at the national scale, providing highly significant additional renewable energy generation capacity in scalar terms and in a timely manner to meet need, are sufficient to outweigh the negative impacts that have been identified in relation to the construction and operation of the Proposed Development at the local scale. The local harm that the ExA has identified is substantial and should not be under-estimated in effect. Its mitigation has in certain key respects been found to be only just sufficient on balance. However, the benefits of the Proposed Development principally in terms of addressing the need for renewable energy development identified in NPS EN-1 outweigh those effects. In terms of PA2008 s104(7) the ExA specifically finds that the benefits of the Proposed Development do on balance outweigh its adverse impacts.
- 28.4.5. In reaching this conclusion, the ExA has had regard to the effect of the Proposed Development cumulatively with the other East Anglia development and with such other relevant policies and proposals as might affect its development, operation or decommissioning and in respect of which there is information in the public domain. In that regard, the ExA observes that effects of the cumulative delivery of the Proposed Development with the other East Anglia development on the transmission connection site near Friston are so substantially adverse that utmost care will be required in the consideration of any amendments or additions to those elements of the Proposed Development in this location. This ExA does not seek to fetter the discretion of future decision-makers about additional development proposals at this location. However, it can and does set out a strong view that the most substantial and innovative attention to siting, scale, appearance and the mitigation of adverse effects within design processes would be required if anything but immaterial additional development were to be proposed in this location.
- 28.4.6. In relation to this conclusion, the ExA observes that particular regard needs to be had at this location to flood and drainage effects (where additional impermeable surfaces within the existing development site have the potential to affect the proposed flood management solution), to landscape and visual impacts and to impacts on the historic built environment, should these arise from additional development proposals in the future.
- 28.4.7. The ExA concludes overall that, for the reasons set out in the preceding chapters and summarised above, the SoS should decide to grant development consent.
- 28.4.8. The ExA acknowledges that this is a conclusion that may well meet with considerable dismay amongst many local residents and businesses who became IPs and contributed positively and passionately to the Examination across a broad range of matters and issues. To them the ExA observes that their concerns are real and that the planning system provided a table to which they could be brought. However, highly weighty global and national considerations about the need for large and timely additional renewable energy generating capacity to meet need and to materially assist in the mitigation of adverse climate effects due to

carbon emissions have to be accorded their due place in the planning balance. In the judgment of the ExA, these matters must tip a finely balanced equation in favour of the decision to grant development consent for the Proposed Development.

LAND, RIGHTS & STATUTORY PROVISIONS

- Chapter 29: Compulsory Acquisition and Related Matters
- Chapter 30: The Draft Development Consent Order and Related Matters

29. COMPULSORY ACQUISITION & RELATED MATTERS

29.1. INTRODUCTION

29.1.1. This chapter of the report deals with the compulsory acquisition (CA) of land and rights over land, and related matters including temporary possession (TP) and the Public Sector Equality Duty (PSED). It is set out as follows:

- Legislative requirements;
- The request for CA and TP powers;
- The purpose and extent of the powers sought;
- Examination of the case for the powers sought; and
- Conclusions.

29.1.2. The ExA concludes overall, for the reasons set out in the preceding chapters and summarised in Chapter 28 above, that the SoS should decide to grant development consent.

29.2. LEGISLATIVE REQUIREMENTS

29.2.1. The development consent regime for Nationally Significant Infrastructure Projects is created by PA2008. References to land include rights over land.

29.2.2. There is no National Trust land or public open space included in the application so s130, s131 and s132 PA2008 do not apply and are not considered further.

29.2.3. The ExA has taken all relevant legislation and guidance into account in its reasoning. Relevant conclusions are drawn at the end of this Chapter in relation to both CA and TP.

Compulsory Acquisition

29.2.4. Under PA2008 s122, a DCO may only authorise compulsory acquisition if the land:

- is required for the development to which the development consent relates; or
- is required to facilitate or is incidental to that development; or
- is replacement land which is to be given in exchange for the Order land under sections 131 or 132 of PA2008;

and there is a compelling case in the public interest for the land to be acquired compulsorily.

29.2.5. Under PA2008 s123, the SoS must be satisfied that either:

- the application for the order granting development consent includes a request for compulsory acquisition of the land to be authorised; or

- all persons with an interest in the land consent to the inclusion of the provision; or
 - the prescribed procedure has been followed in relation to the land.
- 29.2.6. It is therefore for the applicant to defend and justify its proposals and to show how the above tests are satisfied for each parcel of land which it intends to acquire compulsorily.
- 29.2.7. In particular, the applicant should be able to show that:
- the land to be acquired is no more than is reasonably required³⁷; and
 - the public benefit outweighs the private loss³⁸.
- 29.2.8. Factors to be taken into account in the decision whether or not to include a provision in the DCO authorising the compulsory acquisition of land include whether:
- there is a need for the project;
 - all reasonable alternatives to compulsory acquisition, including modifications to the project, have been explored³⁹;
 - the proposed interference with the rights of those with an interest in the land is
 - for a legitimate purpose; and
 - necessary; and
 - proportionate⁴⁰;
 - the applicant has a clear idea of how the land which is to be acquired is to be used⁴¹;
 - there is a reasonable prospect of the requisite funds for compulsory acquisition becoming available⁴²; and
 - the purposes are sufficient to justify interfering with the human rights of those with an interest in the land affected, with particular reference to Article 1 of the First Protocol of the European Convention on Human Rights⁴³.
- 29.2.9. The application must be accompanied by a funding statement which explains how the compulsory acquisition is to be funded. The applicant is also advised to include as much information as is available at the application stage about how the project as a whole is to be funded and the business case⁴⁴.

³⁷ Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land: DCLG September 2013, paragraph 11

³⁸ Ibid, paragraph 13

³⁹ Ibid, paragraph 8

⁴⁰ Ibid, paragraph 8

⁴¹ Ibid, paragraph 9

⁴² Ibid, paragraph 9

⁴³ Ibid, paragraph 10

⁴⁴ Ibid, paragraph 17

- 29.2.10. The applicant should also be able to show that adequate funding will be available for compulsory acquisition within the statutory time period⁴⁵.
- 29.2.11. In this case the Applicant wishes to apply to vary the statutory time period from five to seven years. The Applicant should be able to explain why this variation is necessary⁴⁶.
- 29.2.12. The applicant must also submit with the application a statement of reasons relating to the compulsory acquisition which justifies the compulsory acquisition sought, explains why there is a compelling case in the public interest and gives reasons for the creation of new rights⁴⁷.

Temporary possession

- 29.2.13. Further to Part 1 of Schedule 5 to PA2008 at paragraph 2, TP powers are capable of being within the scope of a DCO. PA2008 and the associated DCLG CA Guidance do not contain the same level of specification and tests to be met in relation to the granting of TP powers, as by definition such powers do not seek to deprive or amend a person's interests in land permanently.
- 29.2.14. The Neighbourhood Planning Act 2017 (NPA2017) contains provisions which amount to a codification of new TP practice. In recognition of the greater extent to which TP is being sought by scheme promoters, and also in recognition of the extended durations for which TP powers are being sought, the NPA2017 also provides for enhancements to the rights of Affected Persons (AP) subject to TP.
- 29.2.15. These enhancements are with a view to ensuring that APs subject to TP enjoy rights to notice and to relevant compensation which are equivalent or proportionate to those rights already available to APs subject to CA. However, at the close of the Examination, the relevant provisions of NPA2017 had not come into force.

Statutory undertakers' land, rights and apparatus

- 29.2.16. PA2008 s127 provides that statutory undertakers' land or rights that are the subject of an unwithdrawn representation by the statutory undertaker may not be acquired unless the relevant test is satisfied.
- 29.2.17. In relation to statutory undertakers' land, under PA2008 s127(3) the SoS must be satisfied that:
- it can be purchased and not replaced without serious detriment to the carrying on of the undertaking; or
 - if purchased it can be replaced by other land belonging to, or available for acquisition by, the undertakers without serious detriment to the carrying on of the undertaking.

⁴⁵ Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land: DCLG September 2013, paragraph 18

⁴⁶ Ibid, paragraphs 18, 44

⁴⁷ Ibid, paragraph 32

- 29.2.18. In relation to statutory undertakers' rights, under PA2008 s127(6) the SoS must be satisfied that:
- the right can be purchased without serious detriment to the carrying on of the undertaking; or
 - any detriment to the carrying on of the undertaking, in consequence of the acquisition of the right, can be made good by the undertakers by the use of other land belonging to or available for acquisition by them.
- 29.2.19. PA2008 s138 provides that where land is subject to relevant rights or apparatus benefiting a statutory undertaker, that right may only be extinguished and/or the apparatus removed if the SoS is satisfied that the extinguishment or removal is necessary for the purpose of carrying out the development to which the order relates.

Crown land and rights

- 29.2.20. PA2008 s135(1) provides that an Order may only provide for the CA of an interest in Crown land if it is for the time being held otherwise than by or on behalf of the Crown and the appropriate Crown authority consents.
- 29.2.21. PA2008 s135(2) requires the consent of the appropriate Crown authority to any other provision affecting the Crown, without which the Order may not be made.

Human rights

- 29.2.22. The ExA has considered whether the Proposed Development engages the Human Rights Act 1998 and has formed the view that it does, with reference to the European Convention on Human Rights (ECHR) and in particular:
- Article 6 (fair and public hearing);
 - Article 8 (respect for private and family life, home and correspondence);
 - Article 1 of the First Protocol to the ECHR (peaceful enjoyment of possessions).
- 29.2.23. The ExA has also considered:
- the degree of importance to be attributed to the existing uses of the land which is to be acquired; and
 - the weighing of any potential loss of ECHR rights against the public benefit.

Public Sector Equality Duty (PSED)

- 29.2.24. Section 1 of the Equality Act 2010 requires public authorities, when making decisions of a strategic nature, to have due regard to the desirability of reducing inequalities of outcome. The SoSBEIS is a public authority by virtue of Schedule 19 of the Equality Act 2010.

- 29.2.25. Sections 4 to 12 of the Equality Act 2010 identify and define nine protected characteristics:
- age (a particular age or age group);
 - disability (physical or mental with a substantial and long term adverse effect on ability to carry out normal day-to-day activities)
 - gender reassignment (a transsexual person);
 - marriage and civil partnership;
 - pregnancy and maternity;
 - race (including colour, nationality and ethnic or national origins);
 - religion or belief (including a lack of religion or belief);
 - sex;
 - sexual orientation (towards persons of the same sex, persons of the opposite sex or persons of either sex).
- 29.2.26. Reference may be made both to persons who have a particular protected characteristic and to those who share a particular protected characteristic.
- 29.2.27. In respect of the advancement of equality, Section 149 of the Equality Act 2010 places a duty (the Public Sector Equality Duty) on public authorities to have due regard to the need to
- Eliminate discrimination, harassment, victimisation and any other prohibited conduct; and
 - Advance equality of opportunity and foster good relations between those who share a particular protected characteristic and those who do not.

29.3. THE REQUEST FOR CA AND TP POWERS

CA and TP powers sought

The original application

- 29.3.1. Paragraph 8.1 of the covering letter to the application [APP-001] states that:
- "The Applicant is seeking authority within the draft Order to acquire compulsorily land and interests and other related powers to support the delivery of the Project..."*
- 29.3.2. The Applicant sought CA powers within the draft Development Consent Order (dDCO) [APP-023] for both land and rights over land. In relation to rights over land, the request relates both to the creation of new rights and to the acquisition of existing rights.
- 29.3.3. The Applicant also submitted:
- a land plan [APP-009];
 - a Crown land plan (offshore) [APP-019];
 - an Explanatory Memorandum to the dDCO [APP-025];
 - a Statement of Reasons [APP-026];
 - a Funding Statement [APP-027]; and

- a Book of Reference [APP-028].

29.3.4. After acceptance of the application [PD-001] and advice under section 51 of PA2008 [PD-002], the Applicant submitted the following documents:

- a land plan (onshore) [AS-001];
- a land plan (offshore) [AS-002];
- revisions to the Book of Reference [AS-004], [AS-005]; and
- a schedule of changes to the Book of Reference [AS-006].

Taken together, these documents set out the land and rights sought by the Applicant together with the reasons for seeking compulsory powers and the basis on which compensation would be funded.

29.3.5. The Applicant did not submit either a plan showing Crown land onshore or a plan showing special category land.

Changes during the Examination

29.3.6. There were changes made to all these application documents during the Examination. These changes included changes made as a result of changes to the application, two of which included an application for additional land:

The onshore land plan was updated at

- Deadline 1 [REP1-004];
- Deadline 7 [REP7-004];
- subsequent to Deadline 9 in respect of a change to the application [AS-105]; and at
- Deadline 11 [REP11-003].

The offshore land plan was updated at Deadline 3 [REP3-005].

The Crown land plan (offshore) was reissued at Deadline 12 [REP12-011].

The dDCO was updated during the Examination at

- Deadline 3 [REP3-011];
- Deadline 5 [REP5-003];
- Deadline 7 [REP7-006];
- Deadline 8 [REP8-003];
- after Deadline 9 [AS-109]; and at
- Deadline 12 [REP12-013].

The Explanatory Memorandum was updated during the Examination at

- Deadline 7 [REP7-011];
- Deadline 8 [REP8-007]; and at
- Deadline 12 [REP12-017].

The Statement of Reasons was updated at

- Deadline 1 [REP1-006];

- Deadline 7 [REP7-012];
- Deadline 8 [REP8-009];
- subsequent to Deadline 9 [AS-112]; and at
- Deadline 11 [REP11-006].

The Funding Statement and Annexes were revised at

- Deadline 1 [REP1-008] [REP1-010] [REP1-012] [REP1-013];
- Deadline 7 [REP7-015] [REP7-017] [REP7-018] [REP7-019]; and at
- Deadline 11 including a signed funding agreement [REP11-008] [REP11-009] [REP11-010] [REP11-011]; and

The Book of Reference was updated at

- Deadline 1 [REP1-015];
- Deadline 3 [REP3-014];
- Deadline 7 [REP7-021];
- Deadline 8 [REP8-011];
- subsequent to Deadline 9 [AS-114];
- Deadline 11 [REP11-013]; and at
- Deadline 12 [REP12-019].

29.3.7. Consequently, at the close of the Examination, the most up-to-date versions of the relevant application documents referred to above were as follows:

- a land plan (onshore) [REP11-003];
- a land plan (offshore) [REP3-005];
- a Crown land plan (offshore) [APP-019]
- the Applicant's final preferred dDCO [REP12-013];
- the Explanatory Memorandum to the dDCO [REP12-017];
- the Statement of Reasons [REP11-006]
- the Funding Statement [REP11-008];
- Annex 1 to the Funding Statement [REP11-009];
- Annex 2 to the Funding Statement [REP11-010];
- Annex 3 to the Funding Statement [REP11-011]; and
- the Book of Reference [REP12-019].

29.3.8. The position at the close of the Examination is that the Applicant seeks CA powers within its final preferred dDCO [REP12-013] for both land and rights over land, as well as TP powers. In relation to rights over land, the request relates both to new rights and to the acquisition of existing rights.

DCO Articles and Schedules

29.3.9. The relevant Articles in the Applicant's final preferred dDCO [REP12-013] are as follows:

- Article 18 – Compulsory acquisition of land;
- Article 19 – Time limit for exercise of authority to acquire land compulsorily;
- Article 20 – Compulsory acquisition of rights;
- Article 21 – Private rights;

- Article 22 – Application of the Compulsory Purchase (Vesting Declarations) Act 1981;
- Article 23 – Application of Part 1 of the Compulsory Purchase Act 1965;
- Article 24 – Acquisition of subsoil or airspace only;
- Article 25 – Rights under or over streets;
- Article 26 – Temporary use of land for carrying out the authorised project;
- Article 27 – Temporary use of land for maintaining the authorised project;
- Article 28 – Statutory undertakers;
- Article 29 – Recovery of costs of new connections;
- Article 41 – Crown rights;
- Article 42 – Protective provisions; and
- Article 43 – Funding.

29.3.10. The following schedules to the Applicant's final preferred dDCO [REP12-013] are also relevant:

- Schedule 3 – Public rights of way to be temporarily stopped up;
- Schedule 5 – Streets to be temporarily stopped up;
- Schedule 7 – Land in which only new rights etc may be acquired;
- Schedule 8 – Modification of compensation and compulsory purchase enactments for creation of new rights and imposition of new restrictions;
- Schedule 9 – Land of which temporary possession may be taken; and
- Schedule 10 – Protective provisions.

The Order land

29.3.11. Land over which CA and/or TP powers are sought is referred to in this chapter as the Order land.

29.3.12. The land which the Applicant seeks only to use temporarily is shown in brown on the onshore land plan [REP11-003]. These plots are also listed in Schedule 9 to the Applicant's final preferred dDCO [REP12-013] and described in the Book of Reference [REP12-019] as being subject to powers of temporary possession only (Rights X).

29.3.13. The land which the Applicant seeks to use temporarily and which is also subject to acquisition of permanent rights is shown in blue on the onshore land plan [REP11-003]. These plots are listed in Schedule 7 to the Applicant's final preferred dDCO [REP12-013]: they are described in the Book of Reference [REP12-019] as being subject to acquisition of permanent rights and are also described as being subject to temporary possession (Rights X) in accordance with Schedule 9 to the Order.

29.3.14. The land which the Applicant seeks to use temporarily and which is also subject to freehold acquisition is shown in pink on the onshore land plan [REP11-003]. These plots are listed in Schedule 7 to the Applicant's final preferred dDCO [REP12-013]: they are described in the Book of Reference [REP12-019] as being subject to freehold acquisition and are

also described as being subject to temporary possession (Rights X) in accordance with Schedule 9 to the Order.

Conclusions

- The Applicant seeks CA powers within its final preferred dDCO [REP12-013] for both land and rights over land, including additional land [REP1-004] [AS-105].
- The Applicant sought CA powers within the original application [APP-023]. The requirements of section 123(2) of PA 2008 are therefore satisfied in respect of land (including new rights over land) over which CA was sought in the original application.
- The applications for additional land are discussed later in this chapter and are described more fully in Chapter 2. The first application for additional land was submitted at Deadline 1 and included a request for CA powers in respect of additional land as defined in Regulation 2(1) of the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 (as amended) [REP1-037]. The requirements of section 123(4) of PA 2008 are therefore satisfied in respect of the first application for additional land.
- Advance notice of the second application for additional land was given at Deadline 9 [REP9-001] and details submitted a week later on 22 April 2021, including evidence of adequate consultation and that each person with an interest in the proposed additional land consented to the inclusion of the additional land provision [AS-104]. The requirements of section 123(3) of PA 2008 are therefore satisfied in respect of the second application for additional land.
- The requirements of section 123 of PA2008 are therefore satisfied in respect of all the land and rights over land now sought in the Applicant's final preferred dDCO [REP12-013].

29.4. THE PURPOSE AND EXTENT OF THE POWERS SOUGHT

Application documents

- 29.4.1. The Applicant submitted proposed changes to the application during the Examination
- on 2 November 2020 [REP1-039] [REP1-037], entailing the modification of existing plots 8, 31, 104 and 130, and the creation of additional plots 8A, 104A, 104B and 104C;
 - on 4 March 2021 [REP7-004, REP7-012 and REP7-013], entailing the removal of plot 3 from the landfall area and reducing the required width of the onshore cable route at plot 54 (the crossing of the Hundred River); and
 - on 22 April 2021 [AS-104] and 7 June 2021 [REP11-053], consisting of a reduction in the area of plots 12 and 13 and the removal of plot 10 near Ness House.
- 29.4.2. The purposes for which land (and rights over land) are required are set out and described in the final versions of:

- the Applicant's preferred dDCO [REP12-013];
- the Statement of Reasons [REP11-006];
- the Book of Reference [REP12-019];
- the onshore land plan [REP11-003]; and
- the Crown land plan (offshore) [APP-019].

29.4.3. Paragraph 78 of the Statement of Reasons [REP11-006] explains that:

"As it cannot yet be confirmed exactly where within the onshore cable corridor the cable route will be located ... possession of the relevant Order land will be taken on a temporary basis ... Exercise of powers of compulsory acquisition of land or rights over land will only take place once it has been determined what land is required permanently ... and what land requires only to be occupied on a temporary basis."

29.4.4. Paragraph 82 of the Statement of Reasons [REP11-006] states that:

"It is the intention that private agreements be entered into with all affected landowners and occupiers. However, should this not prove possible, powers of compulsory acquisition will only be exercised in respect of the area of land determined as required for the carrying out of works for, and the subsequent operation of, the authorised project."

29.4.5. The Proposed Development would be both offshore and onshore. However, CA and TP powers are sought only over the Order land shown on the onshore land plan [REP11-003].

29.4.6. Various method statements, comments and responses were produced during the Examination which assisted ExA understanding of the application proposals. Other documents were also provided with the application, or produced by way of clarification in the course of the Examination, which assisted our understanding of both the purposes for which land and rights over land are sought and the related issues, including human rights issues:

- the Project Description [APP-054];
- a Regulatory Context Note, including an explanation of the CION process [REP2-003]
- a Project Update Note in respect of installation of cable ducting [REP2-007];
- a Sizewell Mitigation Land Clarification Note [REP3-076];
- a Public Sector Equality Statement [REP4-013];
- a HDD Verification Clarification Note (landfall) [REP6-024];
- a landfall hydrogeological risk assessment [REP6-021];
- an outline SPA crossing method statement [REP6-036];
- an outline watercourse crossing method statement [REP6-041];
- an Activity Exclusion Zones Plan [REP7-035];
- a Sizewell C Order Limits Interaction offshore Plan [REP7-037]; and
- a statement regarding ground investigation works [REP10-029].

29.4.7. Paragraphs 4 and 20 of the Applicant's Statement of Reasons [REP11-006] summarise the main components of the onshore works as follows:

"... onshore infrastructure connecting the offshore electrical platforms to a new onshore substation at Grove Wood, Friston, together with a new National Grid substation and National Grid overhead line realignment works."

and as follows:

- 29.4.8. *"Onshore cables will bring electricity from landfall to a new onshore substation in the vicinity of Grove Wood, Friston and will then connect into National Grid infrastructure to include a new National Grid substation and National Grid overhead line realignment works."*
- 29.4.9. Paragraphs 37, 38 and 39 of the Statement of Reasons [REP11-006] explain that the Applicant has been seeking to acquire the land, rights over land and temporary use of land by agreement, and continues to seek details of the relevant parties and interests.
- 29.4.10. Paragraphs 182 to 187 of the Statement of Reasons [REP11-006] explain how the Applicant has gone about negotiating with landowners in respect of the land and rights required. The unnumbered table referred to in paragraph 183 gives the status of negotiations with landowners and occupiers at the time of the application.
- 29.4.11. Paragraph 182 of the Statement of Reasons [REP11-006] says that
"The Applicant will continue to seek to acquire rights and interests by agreement where possible ..."
and explains that
"Seeking compulsory acquisition powers whilst negotiations to acquire interests continue in parallel is in accordance with both general practice and paragraph 25 of the Compulsory Acquisition Guidance."⁴⁸
- 29.4.12. However, at the close of the Examination, the Applicant had been unable to acquire all the land and rights required by agreement: the table in the Statement of Reasons [REP11-006] immediately below paragraph 183 summarises the status of negotiations.
- 29.4.13. In paragraph 184 of the Statement of Reasons [REP11-006], the Applicant explains that
"The Applicant's purpose in acquiring the Order Land compulsorily, if required, in accordance with the provisions of the 2008 Act, is to secure the land and rights required to construct and then operate (the authorised project) within a reasonable commercial timeframe."
- 29.4.14. Paragraphs 206 to 217 of the Statement of Reasons [REP11-006] set out briefly the Applicant's case for the CA and TP powers requested. At paragraph 217 the Applicant states that:

⁴⁸ Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land: DCLG September 2013

"The Applicant considers that there is a compelling case in the public interest for powers of compulsory acquisition to be granted to ensure that the necessary rights can be obtained in a commercially reasonable and timely manner to enable this nationally significant infrastructure project to go ahead which is required to meet a pressing national need for electricity generating capacity."

- 29.4.15. In paragraph 306 of the Statement of Reasons [REP11-006], the Applicant concludes that the conditions of section 122 of PA2008 have been met.

The Order land

- 29.4.16. In section 3 (paragraphs 22 to 36) of the Statement of Reasons [REP11-006] the Applicant sets out a brief description of the Order land. This land is shown on the onshore land plan [REP11-003] edged red, and each plot is listed and described in the Book of Reference [REP12-019]. The Book of Reference also explains the various categories of Order land, and the various rights being sought and their purpose.

- 29.4.17. Land where the freehold is to be acquired compulsorily is shown coloured pink on sheets 5 to 9 of the onshore land plan [REP11-003]. Plot 68 is close to the cable route to the south of Fitches Lane and is required for landscaping: the remainder of this land is all in the vicinity of Grove Wood, Friston (plots 94, 98, 99, 105-114, 127-131, 133, 135) and is required for:

- construction and operation of a new onshore substation;
- construction and operation of a new National Grid substation;
- National Grid overhead line realignment works to allow connection into the National Grid transmission network; and
- landscaping and flood protection.

The Applicant explains in paragraph 74 of the Statement of Reasons [REP11-006] that where it is seeking to use CA powers to acquire land, or new rights over land, powers for temporary use of such land will be taken prior to acquisition of the freehold in order to reduce the amount of land affected by freehold acquisition. The Applicant therefore relies upon Articles 20, 26 and 27 in respect of this land, which would also have private rights and restrictive covenants extinguished in accordance with Article 21.

- 29.4.18. The majority of the rights to be acquired compulsorily relate to the landfall and cable route. This land is coloured blue on the onshore land plan [REP11-003]. The standard cable corridor width is 70m, within which the typical working width of 32m would be located as described in paragraph 77 of the Statement of Reasons [REP11-006], but at the following locations a greater corridor width and working width would be needed:

- the landfall area at Thorpeness, where there would need to be flexibility in the location of the transition joint bays and the onshore

cable route would need to be aligned to suit (plots 1, 2, 4, 5, 6, 7, 11 and 12);

- the area to the south of Sizewell Gap where the cable route turns west and the cable circuits would be separated into their constituent cables to cross beneath the heritage railway and the Leiston/ Aldeburgh SSSI/ Sandlings SPA using a trenchless technique (plots 16, 22, 23, 24, 25, 28, 29, 30, 39 and 40);
- the area of archaeological interest at Thorpe Road (plots 42, 43, 47 and 48);
- the crossing of the Hundred River (plots 50, 54 to 61);
- the area of archaeological interest south of Fitches Lane (plots 66 and 67); and
- locally at the crossing of Grove Road (plot 92).

29.4.19. The standard working width would be reduced at important hedgerows: paragraph 77 of the Statement of Reasons [REP11-006] explains that

"The 32m typical working width would be reduced to a maximum of 16.1m when crossing important hedgerows specified in Part 2 of Schedule 11 to the Order, when going through the woodland to the west of Aldeburgh Road, the woodland to the east of Aldeburgh Road and if open cut trenching is used to cross the Leiston-Aldeburgh SSSI / Sandlings SPA."

29.4.20. Paragraphs 79 and 80 of the Statement of Reasons [REP11-006] confirm that, although the standard corridor width within which construction will take place and the permanent works will be located is 70m, permanent rights will only be required over a width of approximately 20m, this being the width required for the two cable trenches plus room to undertake any necessary operational and maintenance works. The Applicant therefore relies upon Articles 20, 26 and 27 in respect of this land, which would also have private rights and restrictive covenants extinguished in accordance with Article 21.

29.4.21. Article 22 of the Applicant's final preferred dDCO [REP12-013] seeks to incorporate the provisions of the Compulsory Purchase (Vesting Declarations) Act 1981 with modifications.

29.4.22. Section 158 of PA2008 gives the Applicant statutory authority and protection to override easements and other rights.

Temporary possession of land

29.4.23. Where use of land is required only temporarily this is shown coloured brown on the onshore land plan [REP11-003]. The land related directly to the cable route and substations is plots 8, 8A, 9, 17 to 21, 26, 29, 31 to 38, 44, 45, 48, 51 to 53, 62, 71, 73, 75, 76, 78, 79, 81, 84, 89 to 91, 116 to 126, 117A, 122A, 134, 136, 144, 146 and 147 and is required for storage compounds during construction and also for access to the cable route during construction. Plots 148 to 158 are required for highway works on the A1094 at its junctions with the B1069 and the B1121, and plots 159, 160 and 163 to 176 are required for highway works at the

A1094 Friday Street junction with the A12. Plots 177 to 182 are needed to enable improvements to Marlesford Bridge.

- 29.4.24. The NPA2017 provisions relating to TP would, in general terms, enhance the rights of APs subject to TP. However, these provisions had not come into force at the time of the application and the Applicant has not sought to incorporate any of them. This matter was explored during the Examination and is reported on further in the next section of this chapter.

Time limit for exercise of CA powers

- 29.4.25. Under Article 19 the Applicant has applied to vary the statutory time period for the exercise of CA powers from five years to seven years. This matter was explored during the Examination and is reported on further in the next section of this chapter.

Crown land and rights

- 29.4.26. As it is not possible to authorise the CA of rights over Crown land in the DCO other than those rights which already exist and are held otherwise than by or on behalf of the Crown, the Applicant is required to negotiate a separate lease with the Crown for any other rights which it requires in the plots which are Crown land.
- 29.4.27. There is no requirement for consent for CA of an interest in Crown land held otherwise than by or on behalf of the Crown onshore: The Crown Estate wrote on 17 March 2021 [AS-101] to confirm that *"there is no onshore Crown land forming part of the Crown Estate which is subject to the Orders."*
- 29.4.28. However, rights over Crown land are sought so section 135 of PA2008 is engaged. This land is shown separately on the Crown land plan (offshore) [APP-019].
- 29.4.29. Written confirmation from The Crown Estate that the Commissioners consent to this was submitted by the close of the Examination, subject to the wording included with the consent [REP9-054], which contains minor additions (shown in bold) to the Applicant's final preferred dDCO [REP12-013] and is as follows:

*"41.— (1) Nothing in this Order affects prejudicially any estate, right, power, privilege, authority or exemption of the Crown and in particular, nothing in this Order authorises the undertaker or any **lessee or** licensee to take, use, enter upon or in any manner interfere with any land or rights of any description (including any portion of the shore or bed of the sea or any river, channel, creek, bay or estuary)—*

*(a) belonging to Her Majesty in right of the Crown and forming part of **The Crown Estate** without the consent in writing of the Crown Estate Commissioners;*

(b) belonging to Her Majesty in right of the Crown and not forming part of The Crown Estate without the consent in writing of the government department having the management of that land; or

(c) belonging to a government department or held in trust for Her Majesty for the purposes of a government department without the consent in writing of that government department.

(2) A consent under paragraph (1) may be given unconditionally or subject to terms and conditions; and is deemed to have been given in writing where it is sent electronically."

- 29.4.30. The Crown Estate wrote to confirm this position immediately prior to the close of the Examination [REP13-041]. However, Article 41 of the final version of the Applicant's preferred dDCO [REP12-013] has not adopted this wording.

Statutory undertakers and protective provisions

- 29.4.31. The powers sought by the Applicant would affect Statutory Undertakers, both in respect of effects on land (PA s127), and in respect of extinguishment of rights and removal of apparatus (PA s138). Protective provisions are included in the dDCO for the benefit of statutory undertakers.
- 29.4.32. Representations were received from National Grid Electricity Transmission plc (NGET) [RR-056] [REP1-149], Network Rail Infrastructure Limited (Network Rail) [RR-060] [REP1-174], Anglian Water Services Limited [RR-024] [REP1-213], Cadent Gas Limited [AS-007] [REP1-224] and Eastern Power Networks plc represented by UK Power Networks (Operations) Limited [REP4-123].
- 29.4.33. Immediately prior to the close of the Examination NGET wrote to advise that it had withdrawn its objection [REP13-046]:
- "National Grid Electricity Transmission Plc ("NGET") write to confirm that as agreed protective provisions have now been included in the draft DCO, they have no remaining objection to the above Development Consent Order, this includes for the avoidance of doubt NGET having no remaining objection to the order for the purposes of section 127 of the Planning Act 2008. "*
- 29.4.34. Network Rail entered into a private agreement with the Applicant and withdrew its objection [REP9-070].
- 29.4.35. Anglian Water Services Ltd advised that protective provisions had been included in the dDCO and that there were no outstanding matters in respect of the application [REP6-099].
- 29.4.36. Cadent Gas withdrew its objection to the application on 5 February 2021 [AS-073].
- 29.4.37. Immediately prior to the close of the Examination, UK Power Networks (Operations) Limited acting for Eastern Power Networks wrote to advise

that it has no remaining objection: *"this includes for the avoidance of doubt ... having no remaining objection ... for the purposes of section 127 of the Planning Act 2008."* [REP13-135].

- 29.4.38. British Telecommunications plc and Essex and Suffolk Water Limited made no representations but were considered by the Applicants in respect of potential extinguishment of rights and/or removal of apparatus [REP1-125].
- 29.4.39. BT Openreach did not respond to the Applicant in respect of protective provisions [REP9-027]: the ExA understands that its apparatus is all in the public highway and protected by NRSWA 1991.
- 29.4.40. Vodafone responded by email to the Applicant in respect of protective provisions [REP9-027]: the ExA understands that its apparatus is all in the public highway and protected by NRSWA 1991.
- 29.4.41. Plancast (Interoute) and Virgin Media did not respond to the Applicant in respect of protective provisions [REP9-027].
- 29.4.42. EDF Energy Nuclear Generation Limited made a representation [RR-037] as owner of land to the north of Sizewell Gap Road, operator of the nearby Sizewell B nuclear power station and as part of the same group of companies as NNB Generation Company (SZC) Limited. This was withdrawn on agreement of satisfactory protective provisions [REP10-046].
- 29.4.43. EDF (NNB Generation Company Limited) made a representation [RR-038] as promoter of the nearby proposed Sizewell C nuclear power station. By the close of the Examination it wrote [REP13-052] to say that
- "SZC Co. is confident that it will be adequately protected through the protective provisions in the draft DCO as an enclosure to this letter. This letter confirms that SZC Co. no longer has an objection to either scheme."*
- 29.4.44. In response to a question from the ExA under Rule 17 of the EPR [PD-041], NDA confirmed [REP11-125] that
- "There are no remaining matters that were not covered by the SoCG (REP8-130) concluded between NDA, Magnox Ltd. and the Applicants on 25 March 2021 that are relevant to the decommissioning process for Sizewell A that should be considered by the Secretary of State."*
- 29.4.45. ESC and SCC advised at the end of the Examination that the measures proposed in the outline Code of Construction Practice are satisfactory, so no protective provisions are therefore required in respect of highway works or interactions [REP12-070].
- 29.4.46. Consequently, at the close of the Examination, there were no representations from statutory undertakers outstanding and not withdrawn.

Special category land: open space

- 29.4.47. Compulsory acquisition of certain special categories of land is subject to additional provisions in PA2008, including special parliamentary procedure.
- 29.4.48. No land or new rights are sought, either over National Trust land held inalienably or over commons, open space or fuel or field garden allotments as defined in sections 130, 131 and 132 of PA2008.

Funding

- 29.4.49. The application is accompanied by a funding statement [REP11-008] and supporting annexes, including a signed funding agreement [REP11-009] [REP11-010] [REP11-011]. These documents were updated several times during the Examination and describe how the Applicant company fits in to the corporate structure and its relationship to the parent company, which is itself an indirect wholly owned subsidiary of Iberdrola, a Spanish public listed company.
- 29.4.50. Paragraph 2 of the Funding Statement [REP11-008] states that
- "The Applicant is a company created specifically for promoting, developing, constructing and operating the East Anglia ... offshore windfarm ("the Project") for which the Order is sought."*
- 29.4.51. At Annex 1 [REP11-009] is a signed funding agreement subject to English law between the Applicant and parent company Scottish Power Renewables (UK) Limited.
- 29.4.52. At Annex 2 [REP11-010] are the accounts for parent company Scottish Power Renewables (UK) Limited. On page 19 the auditors state that
- "The directors have prepared the financial statements on the going concern basis as they do not intend to liquidate the company or cease its operations ... We have nothing to report in these respects."*
- 29.4.53. Annex 3 to the Funding Statement [REP11-011] sets out the current property cost estimate for contingent liability of £16.4 million and explains how the figure has been arrived at.
- 29.4.54. Although a contingent liability for blight is included in the Property Cost Estimate statement (Annex 3 to the Funding Statement) [REP11-011], paragraph 26 of the updated Funding Statement [REP11-008] states that the Applicant does not expect any claims for blight:
- "It is not anticipated that successful claims for statutory blight will arise as a result of the promotion of the Order. Should claims for blight arise before it is known whether the Project will proceed, the costs of meeting blight claims that are upheld will be met from the capital reserves of the Applicant or the Company."*

The issue of blight was explored briefly in the Examination.

- 29.4.55. It would appear from the balance sheet on page 21 of the accounts at Annex 2 [REP11-010] that there are sufficient funds available to meet contingent liability. This was explored briefly in the Examination.
- 29.4.56. The updated Funding Statement [REP11-008] states in paragraph 27 that
"... funding for liabilities for compensation arising from the acquisition of land and rights, the creation of new rights and for blight will be available where compensation is legitimately claimed."
- 29.4.57. Paragraph 27 goes on to state that
"If the Applicant is unable to pay such compensation then the Company will put the Applicant in funds to enable it so to do, in accordance with the Agreement."
- 29.4.58. It does not appear to state explicitly that adequate funding would be available for compulsory acquisition within the statutory time period. This issue was explored in the Examination.

Conclusions

- At the close of the Examination, the Applicant had been unable to acquire all the land and rights required by agreement.
- The Applicant has applied to vary the statutory time period for the exercise of CA powers from five years to seven years.
- The Crown Estate wrote to confirm its preferred Crown rights wording in the DCO immediately prior to the close of the Examination [REP13-041]. However, Article 41 of the final version of the Applicant's preferred dDCO [REP12-013] has not adopted this wording.
- At the close of the Examination, there were no representations from statutory undertakers outstanding and not withdrawn.
- No land or new rights are sought, either over National Trust land held inalienably or over commons, open space or fuel or field garden allotments as defined in sections 130, 131 and 132 of PA2008.
- The Applicant does not appear to state explicitly that adequate funding would be available for compulsory acquisition within the statutory time period.

29.5. EXAMINATION OF THE CASE FOR THE POWERS SOUGHT (THE APPLICANT'S & OBJECTORS' CASES)

- 29.5.1. The purpose of the examination of the powers sought by the Applicant is:
- to consider the CA and related provisions within the Applicant's final preferred dDCO;
 - to consider whether the conditions relating to the land being required for the Proposed Development or required to facilitate or be incidental to the Proposed Development are met; and
 - to consider whether there is a compelling case in the public interest for the CA and TP provisions sought by the Applicant.
- 29.5.2. This section of the CA and TP chapter sets out:

- Whether the application documents meet the requirements of the relevant regulations and guidance;
- Objections and representations made in respect of the powers being sought;
- Issues arising during the Examination;
- The way in which the proposals for CA and TP powers were examined;
- Requests to change the application and include additional land;
- Matters outstanding at the end of the Examination;
- Considerations in respect of the Human Rights Act 1998; and
- Considerations in respect of the Public Sector Equality Duty.

Application documents

29.5.3. The application documents submitted relevant to CA and TP have been described earlier in this chapter. In particular

- The Explanatory Memorandum explains with reference to the Applicant's preferred dDCO the powers sought to construct, operate and maintain the project. It also gives reasons for the need to vary the statutory time period from five to seven years;
- The Funding Statement [APP-027] explains how the compulsory acquisition is to be funded and includes information about how the project as a whole is to be funded and the business case. It also explains how the necessary funding will be secured when required;
- We examined all these documents and found that they met the requirements of the relevant regulations and guidance.

Objections and representations made in respect of CA and TP

29.5.4. There were over 800 relevant representations made, of which over 40 related to CA and TP issues. In addition, 1 Written Representation [PDC-043] related to CA and TP issues. Further written representations were made during the Examination.

29.5.5. In question 1.3.2 of its first Written Questions (ExQ1) [PD-018] the ExA requested that the Applicant complete a Schedule of CA and TP Objections giving information about objections to the CA and/or TP proposals, including details of the plot numbers and land or rights sought, and update it at each deadline. The position at the close of the Examination is at [REP13-028].

29.5.6. In questions 1.3.4 and 1.3.5 of its first Written Questions (ExQ1) [PD-018] the ExA requested that the Applicant submit information about the status of objections to the CA and/or TP proposals from statutory undertakers, both in respect of land/rights (PA2008 s127) and in respect of extinguishment of rights and removal of apparatus (PA2008 s138) including details of the plot numbers and land or rights sought, and update it at each deadline. The position at the close of the Examination is at [REP13 030] and [REP13-032].

- 29.5.7. Changes to the application during the Examination meant that several objections were effectively withdrawn as the relevant interests were removed from the application.

Statutory undertakers

- 29.5.8. At the close of the Examination, there were no representations from statutory undertakers outstanding and not withdrawn.

Outstanding objections from Affected Persons

- 29.5.9. At the close of the Examination, all matters had been agreed with Affected Persons, except for outstanding objections which are set out below.
- 29.5.10. Most of the outstanding objections related to rights of access and to the siting of the substation and grid connection works at Friston. Topics not relating directly to objectors' interests have been considered in the relevant chapter(s) of this report.
- 29.5.11. The ExA has noted and considered carefully all these outstanding objections, and has set out below its response and conclusion in respect of each particular objection.

1 St Edmundsbury & Ipswich Diocesan Board of Finance [RR-079]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over Plot 99 in respect of restriction, easements and restrictive covenants.
Objection:	Scale and review of proposed onshore substation facilities generally and at Friston; whether an offshore facility would be better [REP8-218].
Status summary:	The Applicant is not proposing to interfere with the covenants, but the landowner is not currently engaging with the Applicant to be able to discuss this matter before approaching the respondent [REP13-029]. The objection has not been withdrawn.

- The ExA notes the objection and is satisfied that the rights sought by the Applicant would not interfere with the covenants. The ExA concludes that the CA tests are met in respect of St Edmundsbury and Ipswich Diocesan Board of Finance (DBF) rights over plot 99.

2 Bidwells for Sizewell Estate Partnership [RR-073]

Location:	Sizewell and Aldringham.

Interests:	Part 1.
Plots:	CA of rights over plots 2, 4-7, 11-16 and 22-25; TP of rights over plots 8, 8A, 9, 19, 26, 29, 31-37, all at Sizewell: CA of rights over plots 39-43, 46 and 47; TP of rights over plots 44, 45 and 48, all near Aldringham, east of the Hundred River.
Objection:	Alternative landfall options; availability of an offshore ring main; consultation and engagement; notice of entry and access.
Status summary:	Heads of Terms are in draft form and discussions continue with the landowner and appointed representative [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of the Sizewell Estate Partnership interests.

3 Bidwells for Ogilvie Family Trust [RR-063]

Location:	Aldringham.
Interests:	Part 1.
Plots:	CA of rights over plots 50, 54, 56 and 57; TP of rights over plots 51-53, all at the Hundred River and the B1122 Aldeburgh Road.
Objection:	As Sizewell Estate Partnership.
Status summary:	Documents have been issued to the Interested Party's legal advisors for signature [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of the Ogilvie Family Trust interests.

4 Brown & Co for Mr J H Rogers [RR-689]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of freehold of plots 131 and 133; CA of rights over plots 113,129, 130 and 135.
Objection:	As Sizewell Estate Partnership.

Status summary: The landowner has instructed an agent and negotiations continue [REP13-029].
The objection has not been withdrawn.

- The ExA notes the objection and the CA of freehold and rights sought: the ExA is satisfied that the freehold of plot 131 is sought for National Grid permanent infrastructure, landscaping and drainage and the freehold of plot 133 is sought for landscaping, drainage and to divert and create new PRow. The ExA concludes that the CA tests are met in respect of Mr J H Rogers's interests.

5 Berrys for Mrs Ann Dallas [RR-255]

Location: Friston.
Interests: Parts 1, 2 and 3.
Plots: CA of rights over plots 92-94; TP of rights over plots 136 and 144 at Grove Road.
Objection: No proper explanation of why her land is needed;
No engagement;
No plans of realignment works;
Blight;
Interference with private water supply.
Status summary: Plots 137-141 have been removed from the Order land. [REP1-039].
The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights now sought. The ExA concludes that the CA tests are met in respect of Mrs Ann Dallas's interests.

6 Ashtons Legal for Graeme Bloomfield [RR-152]

Location: Coldfair Green.
Interests: Parts 1, 2 and 3.
Plots: CA of rights over plots 77, 80, 82 and 86; TP of rights over plot 78, 79, 81 all west of B1069 Snape Road.
Objection: Overriding public interest which justifies taking and use of land not demonstrated;
Consultation process;
Site selection process;
Plans for future expansion;
Transport network.

Status summary: Heads of Terms are close to being agreed: however, the landowner has died. The Applicant is respectfully hopeful negotiations can be concluded once probate is granted [REP13-029].

The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of Graeme Bloomfield's interests.

7 Ashtons Legal for Fielden Ltd [RR-041]

Location: Coldfair Green.

Interests: Parts 1, 2 and 3.

Plots: CA of rights over plots 82, 83, 85-88; TP of rights over plots 79, 81, 84, 89, all west of B1069 Snape Road.

Objection: As for Graeme Bloomfield (6 above).

Status summary: As Graeme Bloomfield: the majority shareholder in the landowner has died. [REP13-029].

The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of Fielden Ltd's interests.

8 Ashtons Legal for Natasha Mann [RR-548]

Location: Coldfair Green and Friston.

Interests: Parts 1, 2 and 3.

Plots: CA of freehold of plots 94 and 112 (Grove Road); CA of rights over plots 80, 82, 83, 85, 86, 92, 93 and TP of plots 78, 79, 81, 84, 89, all between B1069 Snape Road and Grove Road; TP of plot 144 (Grove Road).

Objection: Overriding public interest which justifies taking and use of land not demonstrated; Consultation process.

Status summary: Documents have been issued to the Interested Parties' legal advisors for signature [REP13-029].

The objections have not been withdrawn.

- The ExA notes the nature of the objection and the CA of freehold and rights sought: the ExA is satisfied that the freehold of plot 94 is required for permanent ecological mitigation; and the freehold of plot 112 is sought to maintain the existing woodland, for landscaping and drainage, and to divert and create new PRoW. The ExA concludes that the CA tests are met in respect of Natasha Mann's interests.

9 Ashtons Legal for Richard Mann [RR-550]

Location:	Coldfair Green and Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of freehold of plots 94 and 112 (Grove Road); CA of rights over plots 80, 82, 83, 85, 86, 92, 93 and TP of plots 78, 79, 81, 84, 89, all between B1069 Snape Road and Grove Road; TP of plot 144 (Grove Road).
Objection:	As Natasha Mann (8 above).
Status summary:	Documents have been issued to the Interested Parties' legal advisors for signature [REP13-029]. The objections have not been withdrawn.

- The ExA notes the nature of the objection and the CA of freehold and rights sought: the ExA is satisfied that the freehold of plot 94 is required for permanent ecological mitigation; and the freehold of plot 112 is sought to maintain the existing woodland, for landscaping and drainage, and to divert and create new PRoW. The ExA concludes that the CA tests are met in respect of Richard Mann's interests.

10 Ashtons Legal for Peter Mann [RR-549]

Location:	Coldfair Green and Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of freehold of plots 94 and 112 (Grove Road); CA of rights over plots 82, 86, 92, 93, 95-97; TP of rights over plots 79, 89, all between B1069 Snape Road and Grove Road; TP of rights over plots 136, 144, 146 and 147 between Grove Road and School Road.
Objection:	As Natasha Mann (8 above).
Status summary:	Documents have been issued to the Interested Parties' legal advisors for signature [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the CA of freehold and rights sought: the ExA is satisfied that the freehold of plot 94 is

required for permanent ecological mitigation; and the freehold of plot 112 is sought to maintain the existing woodland, for landscaping and drainage, and to divert and create new PRoW. The ExA concludes that the CA tests are met in respect of Peter Mann's interests.

11 Ashtons Legal for D A Phillips & Co Ltd [RR-031]

Location:	Coldfair Green and Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plots 82, 83, 85 and 86; TP of rights over plots 79, 84 and 89, all between B1069 Snape Road and Grove Road.
Objection:	As Peter Mann (8 above).
Status summary:	Documents have been issued to the Interested Parties' legal advisors for signature [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of D A Phillips & Co Ltd's interests.

12 June Bloomfield [RR-153]

Location:	Coldfair Green.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plot 80; TP of rights over plots 78 and 81, all west of B1069 Snape Road.
Objection:	Siting of substations in Friston; Poor consultation with no NGET involvement.
Status summary:	Right of access will be temporarily interfered with [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA concludes that the CA tests are met in respect of June Bloomfield's interests.

13 Martin Cotter [RR-237]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plots 106, 108, 110, 113, 133 and 135.

Objection:	Siting of substations in Friston; Poor consultation with no NGET involvement. [REP1-285] [REP9-131]
Status summary:	Plot 132 which he owns and occupies has been removed from the Order land [REP13-029]. The objection has not been withdrawn.

Mr Cotter wrote further in respect of heritage assets, uncertain timescales, greener options, mental health and quiet enjoyment, with particular reference to

- recent surveys carried out by the Applicant [REP11-152] [REP11-153];
- public rights of way [REP12-106] [REP12-107];
- interference by the Applicant with his only access to his property [REP12-108]; and
- support for a split decision [REP13-104].

The Applicant responded in respect of Mr Cotter's access [REP12-054] [REP13-018]. The ExA is satisfied with the Applicant's response.

- The ExA notes the nature of the objection, the Applicant's response and the rights now sought. The ExA concludes that the CA tests are met in respect of Martin Cotter's interests.

14 Angela Daniell [RR-256]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	TP of rights over plots 37, 38.
Objection:	Siting of substations in Friston; Cable trench too close.
Status summary:	Right of access only which will not be interfered with [REP13-029]. The objection has not been withdrawn.

- The ExA notes the objection and is satisfied that the rights sought by the Applicant would not interfere with the right of access. The ExA concludes that the CA tests are met in respect of Angela Daniell's interests.

15 Elizabeth Everett [RR-311]

Location:	Aldringham.
Interests:	Parts 1, 2 and 3.

Plots:	CA of rights over plot 64; TP of rights over plot 62 (Fitches Lane).
Objection:	Siting of substations: Sizewell should be used.
Status summary:	Right of access only which will not be interfered with [REP13-029]. The objection has not been withdrawn.

- The ExA notes the objection and is satisfied that the rights sought by the Applicant would not interfere with the right of access. The ExA concludes that the CA tests are met in respect of Elizabeth Everett's interests.

16 Jonathan Franklin [RR-334]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	TP of subsoil rights over plot 136.
Objection:	Siting of substations: Sizewell should be used [REP2-117].
Status summary:	TP sought only relates to works above ground. Plots 137, 138 and 142 were removed from the Order land. [REP13-029]. The objection has not been withdrawn.

- The ExA notes the objection and that the rights now sought by the Applicant would not interfere with the subsoil rights. The ExA concludes that the CA tests are met in respect of Jonathan Franklin's interests.

17 Nicola Fulford [RR-339]

Location:	Friston.
Interests:	Part 1.
Plots:	CA of freehold of plot 109 [REP1-299]; CA of rights over plots 104 and 104C.
Objection:	scoping, noise, lighting, air pollution, flood risk, onshore ecology, traffic [RR-339] [REP1-299].
Status summary:	Included as assumed owners of plot 109: further enquiries will be made to validate this claim [REP13-029]. The objection has not been withdrawn.

Nicola Fulford made further submissions into the Examination stating that for a range of reasons "*Friston is not 'fit for purpose' as the site for these proposed Substations ...*" [REP13-114]: in particular she raised issues of

- mental health, human health [REP1-300];
 - the absence of NGET [REP3-161];
 - the expansion of the Order limits at Work No 33 [REP4-161];
 - rejection of the application in favour of a brownfield site [REP8-205] [REP9-142];
 - Friston House and its relationship with the site [REP5-153];
 - the known flood risk problem and no pre-existing industrialisation [REP4-161] [REP9-142]; and
 - problems and stress caused by the recent surveys [REP11-155] [REP11-156].
- The ExA notes the objection and the rights sought. The ExA is satisfied in respect of the need for the additional land at Work No 33 as well as the land in the original application, and concludes that the CA tests are met in respect of Nicola Fulford's interests.

18 Simon Fulford [RR-340]

Location:	Friston.
Interests:	Part 1.
Plots:	CA of freehold of plot 109 [REP1-299]; CA of rights over plots 104 and 104C.
Objection:	Friston House listed building, noise, light, flooding, consultation, National Grid, Friston like Bramford [RR-340] [REP1-299].
Status summary:	Included as assumed owners of plot 109: further enquiries will be made to validate this claim [REP13-029]. The objection has not been withdrawn.

Simon Fulford also made further submissions into the Examination stating that for a range of reasons Friston is not suitable for the grid connection and substations: in particular he raised issues of

- flooding, noise and light pollution [REP1-336];
- NGV and NGET apparently sidestepping the planning process (Eurolink and Nautilus projects) [REP1-336] and NGET absence [REP3-166];
- the need to include all known projects in a full CIA [REP4-174];
- the need for additional land, including 125m of verge bordering Friston House [REP4-175];
- Friston House and its relationship with the site [REP5-163];
- site selection, comparison with EA1 at Bramford, noise and wellbeing [REP8-215] [REP9-152];

Mr Fulford's closing submission raised issues with surveys, noise and Friston becoming an energy hub, and requested that the application be rejected [REP13-123].

- The ExA notes the objection and the rights sought. The ExA is satisfied in respect of the need for the additional land as well as the land in the original application, and concludes that the CA tests are met in respect of Simon Fulford's interests.

19 William Gault [RR-347]

Name:	William Gault.	[RR-347]
Location:	Friston.	
Interests:	Part 1.	
Plots:	TP of subsoil rights over plot 136.	
Objection:	Siting of substations: Sizewell should be used.	
Status summary:	TP sought only relates to works above ground. Plots 137, 138 and 142 were removed from the Order land. [REP13-029]. The objection has not been withdrawn.	

- The ExA notes the objection and is satisfied that the rights now sought by the Applicant would not interfere with the subsoil rights. The ExA concludes that the CA tests are met in respect of William Gault's interests.

20 Dr Alexander Gimson for Mrs Elspeth Gimson [REP1-242]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plots 12 and 14.
Objection:	Access, water supply, Wardens Trust activities.
Status summary:	The IP’s advisers have been informed that Plot 10 has been removed from the Order land and Plot 12 reduced. [REP13-029]. The objection has not been withdrawn.

Dr Gimson also made further submissions on behalf his mother Mrs Elspeth Gimson, which are considered later in this chapter of the report and also in other relevant chapters, relating to

- the need for a full cumulative impact assessment of all known projects [REP4-142] [REP9-110];
- the impacts on the water supply and Wardens Trust [REP5-136];

- the Hidden Needs Suffolk 2020 report and the Nautilus Interconnector project [REP5-135];
 - water supply well records and information [REP6-168];
 - the water supply, highlighting the need for a cumulative impact assessment [REP6-170] [REP9-110] [REP11-142];
 - a specialist independent report on the water supply, rejecting the Applicant's hydrogeological work as incomplete and inadequate and recommending an extended period of data collection, ground investigation, hydrogeological monitoring and ground modelling [REP13-094];
 - support for a split decision [REP6-169] [REP6-170]; and
 - attempts to prevent objection to the application [REP9-110] [REP11-142]; and
 - closing submissions supporting a split decision [REP13-095].
- The ExA notes the objection and is satisfied that the rights now sought by the Applicant would not interfere with the rights of access. The ExA concludes that the CA tests are met in respect of Mrs Elspeth Gimson's interests.

21 Martin Handscombe [RR-394]

Location:	Friston.
Interests:	Part 1.
Plots:	CA of freehold of plot 128; TP of rights over plots 117, 117A, 120-122.
Objection:	Proximity of substation access road, drainage.
Status summary:	Heads of Terms agreed, draft documents are with the IP's legal advisors and comments are awaited [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection, the CA of freehold land and the temporary rights sought: the ExA is satisfied that the freehold of plot 128 is required for the permanent access road to the substations, including landscaping and drainage, and to divert and create new PRoW. The ExA concludes that the CA tests are met in respect of Martin Handscombe's interests.

22 Andrew Heald [REP1-212]

Location:	Friston.
Interests:	Part 1.
Plots:	CA of freehold of plot 99; TP of rights over plots 100, 101.
Objection:	Substation location.

Status summary: Landowner's agent has advised of instructions not to engage further [REP13-029].
The objection has not been withdrawn.

- The ExA notes the nature of the objection, the CA of freehold land and the temporary rights sought: the ExA is satisfied that the freehold of plot 99 is required for landscaping and drainage for the substation site, and to divert and create new PRow. The ExA concludes that the CA tests are met in respect of Andrew Heald's interests.

23 Guy Heald [REP1-255]

Location: Aldringham to Friston: A1094 Aldeburgh Road.
Interests: Parts 1, 2 and 3.
Plots: CA of freehold of plot 98 (Friston); CA of rights over plots 67, 70 (east of Sloe Lane); TP of rights over plots 89-91, 97, 119 (Friston) and plots 157, 158 (A1094 Blackheath Corner).
Objection: Substation location, regenerate Bradwell.
Status summary: Landowner's agent has advised of instructions not to engage further [REP13-029].
The objection has not been withdrawn.

- The ExA notes the nature of the objection, the CA of freehold land and rights and the temporary rights sought: the ExA is satisfied that the freehold of plot 98 is required for landscaping and drainage for the substation site, and to divert and create new PRow. The ExA concludes that the CA tests are met in respect of Guy Heald's interests.

24 Barbara Jeffries [RR-455]

Location: Aldringham.
Interests: Parts 1, 2 and 3 (restrictive covenants).
Plots: CA of rights over plot 66.
Objection: More substations and interconnectors.
Status summary: The Applicant is not proposing to interfere with or breach the restrictive covenants [REP13-029].
The objection has not been withdrawn.

- The ExA notes the objection and is satisfied that the rights sought by the Applicant would not interfere with the covenants. The ExA

concludes that the CA tests are met in respect of Barbara Jeffries' interests.

25 Michael Lewis [RR-512]

Location:	Friston.
Interests:	Part 1.
Plots:	CA of rights over plots 100, 103.
Objection:	Substation location, consultation.
Status summary:	No agreement sought as works would be undertaken under the New Roads and Streetworks Act 1991 [REP13-029]. The objection has not been withdrawn.

Michael Lewis made further submissions to say that

- substations associated with offshore wind farms should be sited offshore or on brownfield sites on or near the coast [REP1-290]; and
- the current flood water management systems are at critical failure level now and any future developments are likely to push these systems into overload [REP13-109].
- The ExA notes the objection, the CA of rights sought by the Applicant and that works would be undertaken under the New Roads and Streetworks Act 1991. The ExA concludes that the CA tests are met in respect of Michael Lewis's interests.

26 Michael Mahony [RR-538]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of freehold of plot 114; CA of rights over plots 115, 128; TP of rights over plots 116, 117, 117A, 126.
Objection:	Grid connection and realignment at Friston; nature and extent of rights sought; rights will facilitate future projects, particularly the NGV interconnectors.
Status summary:	The objection has not been withdrawn.

Michael Mahony made further submissions

- objecting in principle to the placing of the grid connection and the associated realignment works next to the village of Friston;
- objecting to the width of the permanent access road;

- objecting to the nature and extent of rights being sought over his land, and that rights are being sought which will facilitate future projects, particularly the National Grid Ventures (NGV) Nautilus and Eurolink connector projects [REP1-291] [REP3-158] [REP6-190] [REP7-083];
 - in respect of submissions made by NGET and the Applicants at CAH3 [REP8-201]; and
 - in respect of the Applicant's revised preferred dDCO [REP8-202] [REP9-134] [REP13-108].
- The ExA notes the nature of the objection, the responses from both the Applicant and NGET, the CA of freehold land and rights and the temporary rights sought: the ExA is satisfied that the freehold of plot 114, of which Mr Mahony is the assumed owner, is required for the operational access road for the substation site. The ExA concludes that the CA tests are met in respect of Michael Mahony's interests.

27 Mrs C A Morling [RR-590]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	TP of rights over plot 38 (Grimsey's Lane).
Objection:	Close to haul road but not a noise receptor; Sizewell evacuation route; health and wellbeing, light, vibrations, dust from sandy soil, and traffic
Status summary:	The right of access will not be interfered with in the exercise of the rights sought [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the temporary rights sought, and is satisfied that the right of access will not be interfered with. The ExA concludes that the CA tests are met in respect of Mrs C A Morling's interests.

28 Mrs Annabel Newberry [RR-602]

Location:	Friston.
Interests:	Part 1.
Plots:	TP of rights over plot 134, 136.
Objection:	Consultation, uncertainty what land is required for, notice, 7yr time period, operational noise, disruption especially with other EA project.
Status summary:	Rights sought similar to existing NGET rights but purely temporary [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the temporary rights sought over the campsite and a short length of Grove Road, and is satisfied that the temporary rights sought are similar to existing NGET rights. The ExA concludes that the CA tests are met in respect of Mrs Annabel Newberry's interests.

29 Simon Newberry [RR-603]

Location:	Friston.
Interests:	Part 1.
Plots:	TP of rights over plot 134, 136.
Objection:	Consultation, uncertainty what land is required for, notice, 7yr time period, operational noise, disruption especially with other EA project.
Status summary:	Rights sought similar to existing NGET rights but purely temporary [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the temporary rights sought over the campsite and a short length of Grove Road, and is satisfied that the temporary rights sought are similar to existing NGET rights. The ExA concludes that the CA tests are met in respect of Simon Newberry's interests.

30 Wendy Orme [REP1-233]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	CA and TP of access rights over plots 12 and 14.
Objection:	Impact on water supply, disruption to tenants including Wardens Trust [REP2-159] [REP2-160]; Wardens Hall visitor numbers, missing information in BoR [REP2-160].
Status summary:	Access will be maintained [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought, and is satisfied that access will be maintained. The ExA concludes that the CA tests are met in respect of Wendy Orme's interests.

31 Christopher Orme [REP1-233]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.

Plots:	CA and TP of access rights over plots 12 and 14.
Objection:	Impact on water supply, disruption to tenants including Wardens Trust [REP2-159].
Status summary:	Access will be maintained [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought, and is satisfied that access will be maintained. The ExA concludes that the CA tests are met in respect of Christopher Orme's interests.

32 Margaret Reeve [RR-671]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plots 104, 104C, 105-109; TP of rights over plot 90.
Objection:	Substation siting, loss of farmland, flooding, traffic, holiday lets, noise: also [REP1-281].
Status summary:	Plot 90 landowners not engaging so agreement cannot be reached with the occupier [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought, in particular that the landowners of plot 90 are not engaging with the Applicant. The ExA concludes that the CA tests are met in respect of Margaret Reeve's interests.

33 William Reeve [RR-672]

Location:	Friston.
Interests:	Parts 1, 2 and 3.
Plots:	CA of rights over plots 98, 104, 104C, 105-109; TP of rights over plot 90.
Objection:	Substation siting, loss of farmland, flooding, traffic, holiday lets, noise: also [REP1-281].
Status summary:	Plot 90 and 98 landowners not engaging so agreement cannot be reached with the occupier [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought, in particular that the landowners of plots 90 and 98 are not engaging with the Applicant. The ExA concludes that the CA tests are met in respect of William Reeve's interests.

34 Richard Reeves [RR-673]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	CA and TP of access rights over plots 12 and 14.
Objection:	Access, ecological impacts.
Status summary:	Access will be maintained [REP13-029]. The objection has not been withdrawn.

Richard Reeves made further representations in respect of

- National Grid's intention not to appear at ISH1 and ISH2 [REP2-141];
- the water supply aquifer [REP4-167] [REP5-158] [REP10-065];
- the related hydrogeological risk assessment undertaken by the Applicant [REP7-084] [REP9-146];
- distress caused to livestock [REP9-148]; and
- environmental concerns with particular reference to surveys carried out by the Applicant [REP11-159] [REP11-160] [REP11-161] [REP11-162] [REP11-163].
- The ExA notes the nature of the objection and the rights sought, and is satisfied that access will be maintained. The ExA concludes that the CA tests are met in respect of Richard Reeves's interests.

35 Beverley Strowger [RR-784]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	CA and TP of access rights over plots 12 and 14.
Objection:	Access, safety of her rescue horses.
Status summary:	Plot 10 has been removed from the Order land: Access will be maintained [REP13-029]. The objection has not been withdrawn.

Beverley Strowger made further representations [REP1-217] [REP2-088] [REP3-150] [REP9-099] [REP11-137] about security of the well supplying her water, with reference to recent surveys carried out by the Applicant.

- The ExA notes the nature of the objection and the rights sought, and is satisfied that access will be maintained. The ExA concludes that the CA tests are met in respect of Beverley Strowger's interests.

36 Theresa Tollemache [RR-820]

Location:	A1094/B1069 off site highway works.
Interests:	Parts 1, 2 and 3.
Plots:	TP of right of way over plot 157.
Objection:	Siting of substations, CIA [REP1-381].
Status summary:	Access will not be interfered with [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the temporary rights sought, and is satisfied that access will not be interfered with. The ExA concludes that the CA tests are met in respect of Theresa Tollemache's interests.

37 Maria Toone [RR-822]

Location:	Sizewell.
Interests:	Part 1.
Plots:	CA of rights over plot 23.
Objection:	Siting of substations, CIA [REP1-381].
Status summary:	Part 1 interest in BoR [REP12-019], not Parts 1,2 and 3 as noted by the Applicant in [REP13-029]. The objection has not been withdrawn.

- The ExA notes the nature of the objection and the rights sought. The ExA is satisfied that the CA tests are met in respect of Maria Toone's interests.

38 Tessa Wojtczak [RR-907]

Location:	Sizewell.
Interests:	Parts 1, 2 and 3.
Plots:	CA and TP of access rights over plots 12 and 14.
Objection:	Access, proximity of cable route, light, noise, ecology, HGV, Sizewell evacuation route.
Status summary:	Access will be maintained [REP13-029].

The objection has not been withdrawn.

Tessa Wojtczak also made representations in respect of

- proposed extinguishment, suspension of or interference with private rights which were not communicated to her and which she maintains would severely compromise access to her home and to the Centre for Disabled Children [PDC-043] [REP1-377] [REP1-378] [REP1-379] [REP1-380];
- clarification of Category 1 and Category 2 rights [REP2-154] ;
- the licensed water supply aquifer [REP3-168] [REP8-246] [REP9-159] [REP12-130];
- cumulative impacts [REP4-178];
- relevant projected works in the public domain [REP5-165];
- site information [REP5-166] [REP5-167];
- supporting site videos, [REP5-168] [REP5-169] [REP5-170] [REP5-171] [REP5-172] [REP5-173] [REP5-174] [REP5-175];
- a split decision [REP6-212];
- the Vanguard decision [REP6-213];
- cliff collapse [REP6-214];
- noise [REP8-246] [REP10-071];
- the status of Wardens Trust and its users [REP8-247], particularly in relation to human health [REP10-072];
- cable alignment: her submissions at CAH3 concerning the bend in the cable route alignment at Wardens Trust, referring to an earlier map dated 11 February 2019 showing a much straighter alignment west of the pond in plot 13 not directly abutting the Wardens Trust playing field [REP8-247] [REP6-212]; she states that the Applicant confirmed at CAH3 that this was changed after consultation, presumably because of the need for a SPA buffer zone; and
- the PSED [REP8-247] [REP8-248] [REP10-072] [REP10-073]
- horse and owner welfare and safety [REP9-159];
- the amendment to the Order limits at plot 13 and the necessary SPA buffer zone [REP11-188]; and
- the deer at plots 13, 12, 11 and 4 [REP13-127] [REP13-129] [REP13-130].

Tessa Wojtczak's outstanding objections [REP13-128] are in respect of

- cumulative impact;
 - biodiversity;
 - ground surveys;
 - groundwater;
 - non-disclosure agreements; and
 - tourism and the local economy.
- The ExA notes the nature of the objection and the rights sought, and is satisfied that access will be maintained. The ExA concludes that the CA tests are met in respect of Tessa Wojtczak's interests.

39 Wardens Trust

Location:	Sizewell.
Interests:	No direct interests.
Plots:	
Objection:	Access to facilities and activities, amenity value, viability [REP2-083].
Status summary:	The Applicant explained at CAH2 why Wardens Trust is not listed in the Book of Reference. The objection has not been withdrawn.

Wardens Trust applied for and was granted Interested Party status under PA2008 s102 [PD-047]. Submissions were made by Dr Alexander Gimson on behalf of the Trustees relating to

- the impacts of the application proposals on the vulnerable adults and children in its care [REP2-083] [REP5-121] [REP5-122] [REP6-145] [REP9-092];
- risks to the Trust's water supply, cumulative impacts and lack of meaningful engagement and trust [REP9-092] [REP11-189];
- a split decision [REP6-146].

Wardens Trust also submitted a specialist independent report on the water supply, which rejected the Applicant's hydrogeological work as incomplete and inadequate, and recommended an extended period of data collection, ground investigation, hydrogeological monitoring and ground modelling [REP13-076].

Wardens Trust outstanding objections are [REP13-077]:

- the rationale for the cable corridor route, and its proximity to and consequent impacts on the Wardens site;
- loss of amenity value to the Wardens site;
- failure to address concerns about the water supply at Ness House;
- inadequate hydrogeological risk assessment; and
- cumulative impacts, which threaten the Trust's long term viability.
- The ExA notes the nature of the objection and is satisfied with the Applicant's explanation as to why Wardens Trust is not listed in the Book of Reference. The ExA concludes that the CA tests are met in respect of Wardens Trust interests.

Conclusions in respect of outstanding objections

- The ExA has given careful consideration to all CA and TP related objections and is satisfied that the tests in s122 PA2008 are satisfied in respect of the interests of all Affected Persons.

Issues arising during the Examination

29.5.12. The following issues arose during the Examination:

- Rochdale envelope;
- Interfaces with the other East Anglia application, including phasing of construction works;
- access for construction and maintenance;
- Interfaces with the National Grid overhead line realignment works;
- Interfaces with other neighbouring projects and proposals;
- Temporary possession, and whether the powers sought are no more than are reasonably necessary, and are proportionate, both in terms of land required and duration;
- Working widths;
- Extent of land requirement at the substations site;
- Interference with land use, particularly the impact on agricultural operations;
- consideration of alternatives and design flexibility; and whether all of the Order land is required for the delivery of the project, with a clearly defined purpose, with particular reference to the substations site at Friston, alternative accesses at Aldeburgh Road and the crossing of the Hundred River;
- clarification of the nature and extent of the land and permanent rights being sought, and whether the powers of compulsory acquisition sought are no more than are reasonably necessary, and are proportionate in terms of land required;
- whether the extension of the time limit to exercise powers of CA from five years to seven is justified;
- Final extent of land, rights and powers to be acquired within the Order limits;
- funding and guarantees for compensation;
- Book of Reference;
- human rights considerations;
- the PSED; and
- consideration of changes to the application.

29.5.13. These matters were considered under the following principal issues:

- Electricity connections, infrastructure and other users;
- Other projects and proposals;
- Project description and site selection; and
- Compulsory acquisition, temporary possession and other land or rights considerations.

29.5.14. These principal issues formed part of our initial assessment of principal issues, published at Annex C to the Rule 6 letter [PD-013].

SoCGs

29.5.15. SoCGs were requested from various parties in Annex G to the first Rule 6 letter dated 21 February 2020 [PD-006]. Those which were of particular relevance to CA and TP were the SOCGs requested:

- between the Applicant and relevant local authorities in respect of access to works, access to land and property, and other effects on the Public Rights of Way (PRoW) network; and

- between the Applicant and NGET, National Grid Gas (NGG), any entity engaged in generating station decommissioning, management or development at Sizewell, any relevant interconnector or other transmission asset operator and any other Interested/Statutory Party involved in energy transmission or distribution.

Written questions

- 29.5.16. Following the Panel's consideration of the issues to be examined, the following topics were explored with the Applicant in the Examination through Written Questions [PD-018]:
- access to land, negotiations with landowners and others affected by the project, and the acquisition of the necessary land, rights over land and temporary use of land, whether by agreement or otherwise;
 - what reasonable alternatives to CA had been explored;
 - outstanding objections to the exercise of CA or TP powers;
 - Crown land and consent;
 - Statutory undertakers' land, rights and apparatus;
 - The National Grid overhead line realignment works;
 - Procurement by the Applicant of infrastructure which it is envisaged will be owned and operated by National Grid;
 - Onshore cable corridor width and variations, particularly at the Hundred River crossing and the woodland at Aldeburgh Road;
 - how and why temporary use of land would first be taken;
 - the extent of temporary interference with public rights of way and open space land, both during construction and maintenance;
 - the extent of CA and the process to secure permanent rights both generally along the cable route (in terms of the standard working width) and also for the substations at Friston;
 - what would happen to any Order land found not to be required;
 - funding, including the Contract for Difference (CfD) process, final investment decision, funding models, company structure, contingent liability, blight, market risks and guarantees;
 - accuracy of the Book of Reference; and
 - the extent of creation of new rights and acquisition of existing rights.
- 29.5.17. In respect of statutory undertakers' land, rights and apparatus, the ExA requested (ExQ1.3.4) the Applicant to review relevant representations and written representations made in the Examination alongside its land and rights information systems, and to produce a table identifying and responding to any representations made by statutory undertakers with land or rights to which PA2008 s127 applies, the table to be updated at each successive deadline.
- 29.5.18. In respect of statutory undertakers' land, rights and apparatus, the ExA also requested (ExQ1.3.5) the Applicant to review its proposals relating to CA or TP of land and/or rights and to prepare and at each successive deadline update a table identifying if these proposals affect the relevant rights or relevant apparatus of any statutory undertaker to whom PA2008 s138 applies.

Requests to change the application and include additional land

- 29.5.19. The Applicant submitted proposed changes to the application during the Examination
- on 2 November 2020 [REP1-039] [REP1-037];
 - on 4 March 2021 [REP7-004, REP7-012 and REP7-013]; and
 - on 22 April 2021 [AS-104] and 7 June 2021 [REP11-053].
- 29.5.20. The first proposed change was submitted in respect of additional land considered necessary
- at Work No 7: plot 8 to be modified and plot 8A added to facilitate the construction, use and subsequent removal of a temporary water supply from an existing supply at Thorpeness Road;
 - at Work No 15: plot 31 to be extended to facilitate a temporary diversion of PRow E363/027/0;
 - at Work No 33 (High House Farm): plot 130 to be extended to facilitate the permanent diversion of PRow E363/027/0; and
 - at Work No 33 (Woodside Barn Cottages): plot 104 to be modified and plots 104A, 104B and 104C added to facilitate an alternative route for a surface water drainage connection between the project and National Grid substations and the Friston watercourse at Church Road.
- 29.5.21. The second proposed change did not require additional land and was submitted in respect of the removal of plot 3 and a reduction in the working width at the crossing of the Hundred River (plot 54).
- 29.5.22. These changes were considered by the ExA and accepted into the Examination [PD-020] [PD-035]. All affected persons and additional affected persons requesting to be heard were heard in respect of these proposed changes at either CAH2 or CAH3.
- 29.5.23. Further changes requiring additional land were requested on 22 April 2021 [AS-104] and on 7 June 2021 [REP11-053], both relating to an overall proposed reduction in the total Order land required at Work No 9 near Ness House, namely
- a reduction in the total area of plot 13 consequent upon its realignment to the west outside the existing Order limits;
 - additional land outside the current Order limits at plot 13; and
 - the removal of plot 10 and a reduction in the area of plot 12.
- 29.5.24. Those affected by these later proposed changes had already been consulted by the Applicant and made representations at Deadline 11.
- 29.5.25. The ExA noted in respect of the further changes that
- there were no new Affected Persons;
 - the Applicant had consulted properly on the change to the Order limits at plot 13;

- all those with an interest in the additional land requested at plot 13 consented to its inclusion in the Order; and
- consequently the condition in PA s123(3) was satisfied.

Conclusions in respect of additional land

- The ExA concluded that the first proposed change and request for additional land [REP1-037] was a material change which engaged the CA Regulations, and drew attention to additional measures to ensure adequate consultation and examination of the proposed changes [PD-020].
- The ExA concluded that the second proposed change was not material [PD-035].
- In respect of the change requests made on 22 April 2021 [AS-104] and 7 June 2021 [REP11-053], the ExA decided to accept the proposed further changes as part of the application [PD-039] [PD-050].

Hearings

- 29.5.26. The ExA considered all the responses to written questions, changes to the application, requests for additional land and representations made by Affected Persons, and decided to explore the compulsory acquisition and related issues arising from both the original application and the requests for the inclusion of additional land within the Order limits at three Compulsory Acquisition hearings.

Compulsory Acquisition Hearing 1 (CAH1)

- 29.5.27. CAH1 was held on 1 December 2020 in accordance with section 92 of PA2008 [EV-035 to EV-040], to examine orally the following issues:

- The Applicant's strategic case;
- Alternatives and design flexibility;
- Additional land and/or rights;
- The compulsory acquisition and related provisions in the Order;
- Statutory conditions and general principles;
- Outstanding objections;
- Choice of cable alignment offshore;
- Funding;
- Statutory Undertakers;
- Crown land;
- Public open space; and
- Human rights and the Public Sector Equality Duty.

- 29.5.28. The principal focus of this first hearing was the Applicant's case, both in respect of the original application and the change submitted at Deadline 1 (2 November 2020). Questions were put by the ExA to the Applicant, and other parties present were also invited to comment and to put questions through the ExA, both in respect of the original application and the change submitted by the Applicant at Deadline 1 (2 November 2020).

- 29.5.29. Matters not fully heard were completed in subsequent Compulsory Acquisition hearings.

Compulsory Acquisition Hearing 2 (CAH2)

- 29.5.30. CAH2 was held on Tuesday 16 February 2021 in accordance with section 92 of PA2008 [EV-088] [EV-092 to EV-100], principally to hear from Affected Persons, both in respect of the original application and the changes submitted at Deadline 1 (2 November 2020).
- 29.5.31. As there were also certain matters not fully heard at CAH1, CAH2 also covered the following matters:
- The Compulsory Acquisition Regulations;
 - Objections from Affected Persons, including on human rights and the Public Sector Equality Duty (PSED);
 - National Grid;
 - Consideration of alternatives to CA and TP; and
 - Statutory Undertakers.

Compulsory Acquisition Hearing 3 (CAH3)

- 29.5.32. The ExA held a third Compulsory Acquisition hearing in accordance with section 92 of PA2008 on Thursday 18 March 2021 [EV-127 to EV-127i] in order for the ExA to hear all matters outstanding or not fully heard from previous hearings, as follows:
- The Book of Reference;
 - Crown land and consent;
 - Time limit for exercise of CA powers;
 - Falling away provisions;
 - Funding;
 - Justification of costs to Ofgem;
 - Statutory undertakers;
 - Outstanding objections and progress on negotiations;
 - Works accesses;
 - Works at Marlesford;
 - The need for a 70m wide cable corridor;
 - Alternative substation sites: Bramford, Bradwell and the old Leiston airfield;
 - Grid connection at Broom Covert;
 - Rights sought for realignment of NGET lines at Moor Farm;
 - Operational land at the NGET and Environment Agency (EA) substations site;
 - The bend in the cable route at Wardens Trust (plot 13); and
 - Remaining objections from Affected Persons.

Matters raised at hearings – Applicant’s case

- 29.5.33. Where the ExA has not concluded on a particular topic, it has been carried forward as a matter outstanding at the end of the Examination.

The Applicant’s strategic case

- 29.5.34. At CAH1 the Applicant was first asked to put its strategic case both for CA and TP of land and/or rights and responded briefly with reference to

- Policy and the benefits to the public interest in the delivery of new offshore wind capacity;
- NPS, the Climate Change Act 2008, the 40GW by 2030 pledge in the December 2019 Queen's Speech;
- Reliable, secure, affordable, integrated connections and the socioeconomic benefits to the local economy;
- SCC and ESC key local priorities;
- the statutory context – PA2008 and CA guidance; and
- the justification for the use of CA and TP powers – use of TP to limit imposition on landowners, negotiated agreements where possible, the commercial and timescale rationale for CA.

29.5.35. At CAH1 the ExA referred to the Applicant's responses to ExQ1.3.27 and ExQ1.3.35 [REP1-108] and asked why the grid connection works were not being undertaken by National Grid, as has been the case on many other offshore wind projects, particularly as in this case there is a separate NSIP for the overhead line realignment works.

The Applicant quoted other cases where the proposed approach had been used and said that it considered that integrating the two parts in accordance with NPS policy to ensure delivery was the best way.

29.5.36. At CAH1 the Applicant was asked by the ExA to justify its use of freehold acquisition of the land required for landscaping and ecological mitigation, and to provide examples of other cases where freehold acquisition rather than permanent acquisition of rights or a private agreement has been included in the application.

The Applicant responded that the change in use of the land from arable to woodland and the restrictions on use meant that acquisition of the freehold would be better for the landowners. In its post-hearing submission [REP3-083] the Applicant cited Galloper, Hornsea Two and East Anglia Three and Norfolk Vanguard as all including provisions enabling CA of land for landscaping works.

Alternatives and design flexibility

29.5.37. At CAH1 the Applicant was asked by the ExA to present the approach taken to the project's onshore components and to explain the need to acquire the land and rights sought for landfall, cable alignments (including TP), the onshore substation (including landscaping) and the National Grid connection substation, including the need for land and rights for both this and the other East Anglia project together, when only one project is consented, and in respect of other projects with agreements to connect at Friston, and the associated landscaping in each case.

The Applicant responded briefly with reference to

- technical requirements at landfall - committing to horizontal directional drilling (HDD) and reducing the eastern extent of Work No 7;

- cable alignments and the particular need for flexibility at the crossing of the Sandlings SPA and the Hundred River;
- how the typical working width of 32m is made up; and
- exceptions to the typical working width at the Sandlings SPA, the Hundred River, important hedgerows, the woodland at Aldeburgh Road and north of the transition bays.

29.5.38. The ExA had requested that NGET, National Grid Electricity Systems Operator (NGESO) and NGV attend this hearing to respond to ExA questions about the justification for land acquisition proposals for the Friston transmission connections and the extent to which these might also serve needs other than those of the Applicant. NGET and NGESO were not present at the hearing, so were requested by the ExA to review the recording and respond in writing by Deadline 3.

29.5.39. At CAH1 the ExA also requested that NGET, NGESO and NGV respond in writing to points raised in relation to linked NSIPs and the justification for the Applicant to be applying for the overhead line NSIP that will ultimately be owned and operated by National Grid, with particular reference to possible circumstances in which use by others of additional connections may result in further land being required.

29.5.40. At CAH1 the ExA asked the Applicant to submit a written summary document explaining the rationale for the extent of land sought along the onshore cable corridor, both in respect of this application and the other East Anglia application, why it is not considered necessary to include powers within both DCOs to allow one project to lay ducting for both projects and to submit suitable drafting if it considered that powers could be included within both DCOs to allow one project to lay ducting for both projects.

The Applicant explained [REP3-083] that it had made a commitment in the DCO that, should both this and the other East Anglia project be constructed sequentially, when the first project goes into construction the ducting for the cables for the other East Anglia project will be installed along the whole of the onshore cable route at the same time [REP2 007]. The Applicant did not consider it necessary to include powers within each DCO to allow each project to lay ducting for the other, as the projects are the subject of separate applications.

29.5.41. At CAH1 the ExA asked the Applicant to respond in writing to explain whether there is a need for “falling away” provisions in the DCO for circumstances where, following a decision not to use or construct a particular alternative or option, some land is no longer required.

The Applicant responded [REP4-014] stating that it did not consider such provisions to be necessary because

- They are not standard;
- The provisions in the DCO are limited in terms of the land and rights that can be acquired;
- CA powers only extend to land or rights that are required for the project; and

- Unused CA powers will fall away through expiration of time and the land that is not required will not be burdened or further affected.

Choice of cable alignment offshore

29.5.42. When asked by the ExA at CAH1 about which of the two options currently shown on the offshore land plan would be taken forward, the Applicant maintained its position in paragraph 68 of ES chapter 4 Site Selection and Assessment of Alternatives [APP-052] and argued that flexibility was needed as the final layout of the site has not yet been determined.

Request for inclusion of additional land

29.5.43. The Applicant was asked by the ExA at CAH1 to confirm that a request had been made, that it is sufficient and that due process has been followed in accordance with PA2008 s123(4), and to explain and justify the request [REP1-037] along with any effects on the Examination timetable.

The Applicant confirmed the request and put its case that

- The request is accompanied by a land plan identifying the land required as additional land, a statement of reasons why the additional land is required and a statement indicating how it proposes to fund the CA of the additional land, and is therefore in accordance with Regulation 5 of the CA Regulations;
- The Book of Reference has been updated;
- Notices have been sent to consultees in accordance with Regulation 7 of the CA Regulations;
- All other persons listed in the updated Book of Reference are being consulted, along with any other onshore stakeholders listed in Schedule 1 of Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009;
- Regulation 8 notices have been published; and
- The consultation period and the period for submission of relevant representations will run to 13 January 2021 (Deadline 4).

Consequently, the Applicant did not consider that there would be any material effect on the Examination timetable.

In terms of the need for the additional land, the Applicant explained that the request was

- To facilitate the construction, use and subsequent removal of a temporary underground water supply from an existing underground water supply at Thorpeness Road to Work No 8, thereby reducing the number of Heavy Goods Vehicles (HGV) travelling to Work No 8 on the public road network;
- To facilitate a temporary PRow diversion at Work No 15 and thereby enable uninterrupted use of the PRow network during haul road construction;
- To facilitate a permanent PRow diversion at Work No 33 near High House Farm and thereby reintroduce the historic footpath and field boundary; and

- To facilitate an alternative route for a surface water outfall connection between the site of the proposed substations and Church Road in Friston.
- The ExA considered the submissions made and is satisfied that the requirements of the Compulsory Acquisition Regulations have been complied with by the Applicant. Consequently, the ExA has concluded that the statutory test in PA s123(4) is satisfied in respect of the additional land.

The Compulsory Acquisition (CA) Regulations

- 29.5.44. This item was included on the CAH2 agenda [EV-088] principally to enable the ExA to satisfy itself that the requirements of the CA Regulations had been complied with by the Applicant, and to enable any additional Affected Persons in respect of the application for additional land made at Deadline 1 [REP1-037] to be heard.
- 29.5.45. There were no additional Affected Persons wishing to be heard in respect of the Applicant's request to include additional land.
- The ExA has considered the submissions made by the Applicant at CAH1 in respect of the CA Regulations, is satisfied that all additional Affected Persons have been given adequate opportunity to be heard, and therefore concludes that the requirements of the Compulsory Acquisition Regulations have been complied with by the Applicant in respect of the request for the inclusion of additional land.

Further changes requiring additional land

- 29.5.46. Further changes requiring additional land were requested on 22 April 2021 [AS-104] and on 7 June 2021 [REP11-053], both relating to proposed reductions in the total Order land required at Work No 9 near Ness House, namely
- a reduction in the total area of plot 13 consequent upon its realignment to the west outside the existing Order limits;
 - additional land outside the current Order limits at plot 13; and
 - the removal of plot 10 and a reduction in the area of plot 12.
- 29.5.47. Those affected by these later proposed changes had already been consulted by the Applicant and made representations at Deadline 11.
- 29.5.48. The ExA noted in respect of the further changes that
- there were no new Affected Persons;
 - the Applicant had consulted properly on the change to the Order limits at plot 13; and
 - all those with an interest in the additional land requested at plot 13 consented to its inclusion in the Order.
 - The ExA considered the submissions made and concluded that the statutory condition in PA s123(3) is satisfied in respect of the additional land required at plot 13.

The Book of Reference

- 29.5.49. At CAH3 the ExA reminded all parties of the structure and contents of the Book of Reference and asked the Applicant to explain what measures have been taken, both before and since the start of this Examination, to ensure that all persons affected by the application are now included in the correct part(s) of each Book of Reference.

The Applicant confirmed at CAH3 that the extent of the Order limits has been reduced at Work No 6 (landfall) with the removal of plot 3 from the Order land, and that the width of the cable corridor at the Hundred River crossing has been reduced to 34m for a distance of 40m from the banks. The Applicant continues to keep the Book of Reference up to date with its due diligence Land Registry checks and to gather information on interests in the course of discussions with landowners.

- 29.5.50. At CAH3 the ExA asked the Applicant clarify its reasoning in respect of the exclusion of Wardens Trust as a Category 3 party, particularly in respect of plot 14, and the potential exclusion of other parties who, while not directly affected by the application proposals, may be able to obtain compensation for loss resulting from the implementation of the Order and use of the authorised project.

The Applicant explained its approach in respect of Category 3 claimants in post hearing submissions [REP8-093]. This was in accordance with s42 PA2008 and legal advice in terms of potential claimants under

- s10 Compulsory Purchase Act 1965 for injurious affection, on the basis of construction activities which interfere with the claimant's property rights over another's land which results in loss of value to the claimant's property; or
- Part 1 of the Land Compensation Act 1973 on the basis of operation or use with some physical factor such as noise, vibration, smell, fumes, smoke, artificial lighting or discharge of any solid or liquid substance, resulting in loss of value of the claimant's property; or
- PA2008 s152 for injurious affection (the McCarthy rules) on the basis of loss of value of the claimant's property caused by nuisance.

The Applicant's view was that it was possible for temporary interference to be sufficient for a Category 3 claim for injurious affection, but that this was unlikely to be the case where the works are limited in duration unless the scale of interference is more than it is reasonable to expect a landowner to suffer, and that it had complied with its duty to identify and consult with all parties that may be classified as Category 3.

- The ExA is satisfied with the measures that have been taken, both before and since the start of this Examination, to ensure that all persons affected by the application are now included in the correct part(s) of each Book of Reference.

Compulsory acquisition (CA) and related provisions in the Order

- 29.5.51. In response to questions from the ExA at CAH1, the Applicant listed those Articles which engage CA and TP powers and confirmed that the CA

and TP powers sought in this application are not materially different from those sought in the other East Anglia application.

The Applicant then set out briefly the Articles which engage CA and TP powers. The ExA asked

- Why the NPA2017 provisions should be disapplied (Article 6);
- Why it should recommend an increase in the time limit (Article 19), given that it appears to go against Applicant arguments of pressing need; and
- Whether there is clarity for landowners if either this project, or the other East Anglia project, or both, are delivered in phases and/or to different programmes (Article 26).

29.5.52. In respect of **Article 6 (disapplication of NPA2017)**, the Applicant argued at CAH1 that the relevant provisions of the NPA2017 are not yet in force and the relevant regulations have not yet been made, nor is there any known date for implementation of such regulations. The Applicant also cited other similar applications where NPA2017 has been disapplied.

- The ExA considered the arguments put by the Applicant and concluded that it was reasonable for the Applicant to disapply the NPA2017 provisions in Article 6.

29.5.53. In respect of **Article 19 (time limit for exercise of CA powers)**, the Applicant justified the increase to seven years at CAH1 on the basis that

- Contract for Difference (CfD) uncertainties mean that a realistic timetable would be based on allocation round 5 rather than relying on allocation round 4; and
- The intention to take temporary possession first and only take permanent rights later on in relation to the final location of the infrastructure supports a seven year period while not contradicting the pressing need argument for additional renewable energy infrastructure.

29.5.54. At CAH3 the ExA asked the Applicant to explain the seven year time limit requested in Article 19 in view of the recent proposals to amend the time limit in Requirement 1 to five years. The Applicant explained the apparent discrepancy by reference to the two stage approach it proposed to take whereby temporary possession is taken first and the permanent rights acquired later when the extent of the land requirement is known. This approach minimises the land over which permanent rights would be sought as it will enable the Applicant to complete construction and then acquire permanent rights in the 20m strip in which the apparatus is installed, rather than potentially needing to acquire permanent rights over a 32m strip. The longer period also gives more time to settle any private agreements and potentially reduce the need to exercise CA powers.

29.5.55. In respect of **Article 26 (temporary use of land)**, the Applicant stated at CAH1 that it would keep affected persons informed of project

developments and give the requisite notice where a land agreement is obtained.

- The ExA considered the arguments put by the Applicant in respect of clarity for landowners if either this project, or the other East Anglia project, or both, are delivered in phases and/or to different programmes, and concluded that the provisions in Article 26 are adequate.

CA and related provisions: National Grid

29.5.56. In response to a question from the ExA at CAH2 about the transfer to National Grid, NGET referred to its Deadline 3 submission [REP3-111] made at the request of the ExA following CAH1, and confirmed [REP6-108] that it requires

- Freehold title at its connection substation and sealing end compounds, including for drainage and access;
- Permanent rights and easements for the overhead line works and underground cables, and for access to all operational assets;
- TP powers for construction of all NGET temporary and permanent works and maintenance of all assets.

and that it anticipates the Applicant using its CA powers under the DCO and subsequently transferring the necessary TP powers, land and rights to NGET.

29.5.57. At CAH2 NGET explained that the National Grid substation could not be treated as a separate NSIP, as it does not meet the criteria set out in PA2008 s14: the substation would be associated development in respect of the overhead line works, which being over 2km in length are correctly identified as an NSIP per Schedule 1 of the DCO.

29.5.58. In reply to a question from the ExA at CAH2 as to whether NGET should promote the overhead line works as a separate NSIP and DCO, NGET said that

- It could but it was up to the Applicant to decide; and
- The Applicant has followed advice in paragraph 4.9.2 of NPS EN-1 and put everything in one application and this is not an unusual approach: Sizewell C, Aquind, Neuconnect, Millbrook, Norfolk Vanguard and Boreas, and Lower Thames Crossing were cited and NGET is happy with the arrangement.

29.5.59. When asked by the ExA at CAH2 how the dDCO for this project and the dDCO for the other East Anglia project will operate in the context of other projects with agreements to connect at Friston, and the nearby Sizewell C project, in the various possible consent, construction and operational programme situations, NGET said [REP6-108] that

- the limits of deviation are larger than the maximum dimensions in Requirement 12 to allow for micrositing;

- it is possible that other projects may connect into the NGET substation, but other projects would be subject to a separate DCO approval process to acquire the necessary land;
- if only one of the East Anglia projects proceeds (**the downward case**) then only the connection bay in the National Grid substation would be removed which would not alter the building footprint, and [REP3-111] both overhead lines will have to be connected to the new substation which due to its component parts will be the same size; and
- it is public knowledge that NGV is proposing to develop two separate interconnector projects, Nautilus and Eurolink, and the SoCG between the Applicant and NGV [REP1-062] states at paragraph 13 that the NGET substation proposed in this application has been identified by NGESO as a potential connection point for these interconnectors, with future extensions to the NGET substation required as shown on Figure 1 of Appendix 1 [REP1-062] with NGV or NGET obtaining the necessary consents and the promoter considering and obtaining separate consent for the location of the extension areas: NGET is not aware that NGV has taken any final decision on Nautilus and Eurolink (**the upward case**).

29.5.60. Mr Mahony responded at CAH2 to say that:

- the NGET response in respect of the “downward” case (only one project consented), suggests that it has little or no regard for the requirements of good design and sustainability under NPS EN-1, NPS EN-3 and NPS EN-5; and
- the NGET response in respect of the “upward” case (other projects being added), suggested that NGET was trying to distance itself from NGV documents about connections at Friston and the extent to which the NGET substation would need to be expanded, but that this argument was untenable [REP6-190] because
 - they would both have been involved in the associated CION process; and
 - NGV would not have made a statement about extending the substation without first discussing the matter and seeking guidance from other parts of National Grid.

29.5.61. At CAH2 the ExA asked why the dDCO retains the option for either AIS or GIS technology for the NGET substation. NGET said that it currently prefers AIS to GIS as it is cheaper and does not involve the use of the greenhouse gas sulphur hexafluoride (SF6), but that there may be greener GIS technology available in the future.

Rights sought for realignment of NGET lines at Moor Farm

29.5.62. At CAH3 the ExA asked for justification of the extent of rights sought for the realignment of the NGET overhead lines at Moor Farm.

NGET explained with reference to plots 117A and 116 at and north of the B1121 Saxmundham Road crossing that it needs flexibility to be able to carry out the works efficiently and safely while adhering to the 60m lateral limit of deviation and the need not to locate construction

compounds within the working areas for safety reasons. When the location of the temporary line and required working areas has been determined, the Applicant will advise the landowner of the extent of temporary possession required.

In respect of whether rights to be acquired are necessary and proportionate, Mr Mahony put a question through the ExA asking whether plot 114 is necessary.

The Applicants replied that plot 114 is needed for Work No 33 (landscaping works including bunding, planting and sustainable drainage) and Work No 34 (the operational access road off the Saxmundham Road).

Operational land at the NGET and EA substations site

29.5.63. At CAH3 the ExA referred to

- submissions from the Applicants [REP6-059] and NGET [REP6-110] to our ExQ2.0.1 [PD-030];
- the submission from East Suffolk Council [REP6-079] in response to our ExQ2.0.2 [PD-030]; and
- the submission from SASES at Deadline 7 [REP7-088] in response to these submissions.

and asked about operational land and removal of permitted development rights at both the proposed NGET connection substation and the proposed project substation, as advanced by SASES and ESC.

29.5.64. NGET argued that the permitted development rights should not be removed, referring to previous submissions [REP6-110] and reiterating that

- the operational capability of this important national infrastructure should not be compromised, and
- the expectation of electricity users and the public is that any replacement works at its substation would be carried out promptly without the delay of a planning application.

Operational land was discussed further at ISH15 on the dDCO [EV-128].

29.5.65. Having considered the permitted development and operational land issues raised with great care, the ExA recognises the weight of arguments against the removal of permitted development rights on operational land associated with the substations site (Work No. 30 and Work No. 41). However, in order to ensure that the exercise of future permitted development rights do not compromise the delivery, performance or maintenance of drainage or landscape mitigations which the ExA finds (in Chapters 6, 7 and 8 of this Report) to be important and relevant matters in their own right, the ExA does recommend a change to the dDCO to apply conditions to elements of permitted development. This issue is discussed further in Chapter 30 at sections 30.4 and 30.5.

Alternative substation sites: Bramford, Bradwell and the old Leiston airfield

- 29.5.66. In response to a question from the ExA at CAH3 as to whether all reasonable alternatives to the CA and TP proposed in the application had been adequately explored, and a request to provide a written summary of its reasoning relating to the possible use of alternative sites which had been raised in representations, the Applicant responded that
- Bramford is unsuitable due to constraints of overhead lines, other undertakers' apparatus, areas required for planting for the East Anglia ONE and East Anglia THREE projects, the need for CA, pinch points along a route passing through three designated sites and the cost of the longer route using AC technology, bearing in mind government policy to deliver decarbonisation as cheaply as possible: the SASES proposition, on the basis that both projects are consented, that both this and the other East Anglia project connect using a single DC bipole doesn't work as the limit (1320MW) is insufficient for both projects (1700MW) which would mean two offshore substations and two onshore converter stations, one for each project;
 - Bradwell was considered unviable at an early stage as it would require extension of an overhead line with the consequential environmental, timetable and consenting challenges; and
 - Old Leiston airfield and Harrow Lane, Theberton have problems associated with the proximity of nearby residential property, caravan park, Leiston Abbey and Theberton village, the openness of the landscape and views and the absence of screening.

Alternative grid connection at Broom Covert

- 29.5.67. In ISHs2, NNB Generation (SZC) Company Limited suggested in oral submissions that land at Broom Covert in its ownership might potentially be available to the Applicants. This raised matters that needed to be examined in these hearings, as it was not apparent that a possible alternative substation site (or part of a site) had been ruled out.
- 29.5.68. At Deadline 3 [REP3-123] SZC said: *"SZC Co. has included the land referred to as 'Broom Covert' within its reptile mitigation plan and this land will be used to accommodate the reptiles to be translocated from the land to be used for construction of the Sizewell C power station. This important ecological mitigation land is already providing habitat for a variety of species, as part of the early ecological mitigation that will be relied upon once construction starts. Therefore, this land remains unavailable for development by the Applicant."*
- 29.5.69. Tony Morley submitted [REP8-250] that the Broom Covert site is *"large enough to take all the proposed projects, is close to Sizewell for connection to the Grid, close to the shoreline to minimise cable runs and is poor quality soil that is even too dry to support wild life. For all the years of construction of the Sizewell C & D projects it will be surrounded by workers caravan parks and reserves of construction material. Although it is in the AONB belt a previous Enquiry has ruled that National*

Energy Projects may be considered in such areas and the Leiston substation was built on that basis.”.

- 29.5.70. At CAH3 the ExA asked whether, if the land at Broom Covert is not operationally needed for Sizewell, its availability as an alternative had been properly ruled out. The ExA also requested a clear statement of the facts underlining consideration of land at Broom Covert and adjoining land as a site for the onshore substation and National Grid connection, and the reasoning behind the subsequent rejection of locating the connections at Broom Covert in favour of land north of Friston. The ExA explained that this was necessary to assist the ExA in determining whether the need for compulsory acquisition of land west of Broom Covert is both necessary and proportionate.

The Applicant explained [REP8-093] that in July 2017 EDF Energy advised that the Broom Covert Land, or any land associated with the proposed Sizewell C New Nuclear Power Station development (Sizewell C), was not available for voluntary acquisition as it was allocated for ecological compensation and mitigation for reptiles. Consequently, the Applicant considered that CA of the land was not feasible given EDF status as a statutory undertaker, the importance of the land to Sizewell C and the EDF need to protect the safety and security of the existing Sizewell B power station.

- 29.5.71. The Applicant also said at CAH3 that it had considered the matter following a request from ESC and SCC and had concluded that the policy and consenting challenges associated with Broom Covert outweighed the increased cost of further cabling to the proposed site at Grove Wood because

- EDF had indicated that a parcel of land at Broom Covert might be released if suitable alternative land were delivered by the Applicant with no additional burden on EDF; and
- of consultation concerns about likely impacts on the Suffolk Coast and Heaths AONB.
 - The ExA was satisfied with the Applicant’s response in respect of discounting the grid connection at Broom Covert and concluded that CA of the land to the west is therefore necessary and proportionate.

The need for a 70m wide cable corridor

- 29.5.72. At CAH3 the ExA asked the Applicant a series of questions probing why a 70m wide cable corridor was being requested when only 32m was required.

The Applicant explained both orally and in written submissions [REP8-100] [REP8-093] that a typical working width would be 32m to ensure thermal independence, room for a haul road, temporary works and PRoW diversions, sufficient space to store excavated material and to manage surface water. Also, the same 70m wide cable corridor applies if the project is built at the same time as the other East Anglia project: if the Order limits were reduced and only this project were to proceed then

- this could be sub-optimal in land use, particularly if land were to be severed close to a field boundary if only one project proceeded; and
- this would limit micro-siting options and the optimum route for the 32m working area, and the consequent ability to minimise environmental impact.

Land would be taken on a temporary basis in the first instance and powers of compulsory acquisition will only be exercised when it is determined what land is actually required permanently. This will typically be 20m for each project and is justified on the basis that for each project there would be up to six electrical cables, two fibre optic cables and two distributed temperature sensing cables, laid in two trenches spaced sufficiently apart for thermal independence and with room for maintenance or repair works.

The bend in the cable route at Wardens Trust (plot 13)

- 29.5.73. At CAH3 the ExA asked the Applicant at CAH3 whether, in view of the discussions and submissions made by the Wardens Trust and other Affected Persons, it remained of the view that the nature and extent of the acquisition sought is reasonable and does not amount to over-acquisition compared with the earlier February 2019 alignment, and to justify the bend in the cable alignment at Wardens Trust. The ExA also requested that Applicant respond in writing to the suggestion that the proposed cable corridor be realigned to the west to minimise the land required and locate the cable works further away from The Wardens Trust.

The Applicant explained that consideration was given to the location of an existing pole mounted overhead line, the Sandlings SPA and residential and sensitive receptors. The Applicant concluded that maintaining a 200m buffer from the Sandlings SPA was required to minimise impacts on this European protected site and that sufficient mitigation could be deployed to minimise impacts on residential and sensitive receptors, also allowing the cable to pass squarely under the existing overhead line.

Works accesses at Aldringham

- 29.5.74. At CAH3 the ExA inquired into whether all the land requested for access to the cable route was necessary, particularly off the Aldeburgh Road at Aldringham, and asked about the current access options and which was preferred.

The Applicant explained that the three options for access to the cable route are

- Option 1 - access from Sizewell Gap (access 2);
- Option 2 - access from B1069 Snape Road (access 9); and
- Option 3 - access from the B1122 Aldeburgh Road (accesses 5 and 6);

Option 1 (access 2) will be used to gain access to section 3a of the onshore cable route but cannot be used on section 3b of the onshore

cable route west of the Hundred River as the haul road does not cross the Hundred River.

Option 2 (access 9) is preferred: when access 9 is open this will be the main access to section 3b of the cable route.

Option 3 (accesses 5 and 6) requires construction traffic to negotiate the A1094/B1122 roundabout junction in Aldeburgh, so the Applicant has minimised the use of Aldeburgh Road accesses 5 and 6 and no construction traffic will be permitted to gain access to the onshore cable route from Aldeburgh Road once access 9 is open.

29.5.75. In response to a question from the ExA at CAH3 about the other proposed accesses off the Aldeburgh Road, the Applicant confirmed that plots 51, 52 and 53 will be used only for access by non-HGV traffic for onshore preparation works.

- The ExA was satisfied with the Applicant's access proposals, and concluded that there was a justifiable need for all the land requested for access to the cable route and that the land and rights required are necessary and proportionate.

Works at Marlesford (plots 177 to 182)

29.5.76. The ExA asked a series of questions at CAH3 to probe the need for the land requirement for off-site works at Marlesford, including whether it was proportionate to include plots 177 to 182 in the Order land.

The Applicant explained that only around 50% of the land would be used for storage of a temporary bridge assembly and the associated access, parking and welfare facilities, and that micro-siting will be influenced by ground conditions and flood risk management measures.

The rights sought are only temporary: they would not need to be exercised until relatively late in the construction period when the substation transformers were being delivered, and would then be needed until the last transformer had been delivered and commissioned. The Applicant considered it proportionate to include the land in case the route in from the south was needed in the event that facilities at Lowestoft were not available: the landowners had been contacted both as part of the initial land referencing exercise and by letter in October 2019 with an explanation of why the land would be included in the application. The Applicant has agreed a non-intrusive survey licence with the landowners.

- Given the uncertainty as to whether the land will be required or not, the ExA has given careful thought to the arguments put by the Applicant in respect of deliverability, and is satisfied with the Applicant's response in respect of its need to include the land at Marlesford, subject to proper communications with those affected: consequently the ExA concludes that it is both necessary and proportionate to include the land in the Order.

Justification of costs to Ofgem

- 29.5.77. With reference to the Aldringham access options, the request for a 70m wide cable corridor and the land at Marlesford as examples, the ExA asked at CAH3 about the need to justify costs to Ofgem as part of the evaluation process.

The Applicant explained that it has to demonstrate to Ofgem throughout development, design and construction that costs incurred are economic and efficient, and land costs are part of this process which is designed to ensure compliance with the Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015.

- The ExA was satisfied with the Applicant's response in respect of its need to justify its costs to Ofgem.

Falling away provisions

- 29.5.78. The ExA put a question to the Applicant at CAH3 suggesting that falling away provisions in the dDCO would ensure that rights in any land not required if a particular alternative or option is not selected would fall away automatically.

The Applicant responded that it did not consider such provisions to be necessary because they would not be standard and the CA provisions are limited in terms of the land and rights which can be acquired: flexibility is required to ensure that the best solution can be constructed. The Applicant said that no landowners had expressed concern about this at any of the CA hearings and that this has not been an issue of concern to them: in any event, the CA powers only subsist for a limited time and then fall away anyway.

Statutory conditions and general principles

- 29.5.79. The Applicant confirmed at CAH1 that the cover letter submitted with the application [APP 001] includes at paragraph 8.1 that the Applicant is seeking authority within the draft Order to acquire compulsorily land and interests and other related powers to support the delivery of the project [REP3-086].

Consideration of alternatives to CA and TP

- 29.5.80. At CAH3 the Applicant referred to ES chapter 4 Site Selection and Assessment of Alternatives [APP-052], and explained that a robust site selection process had been undertaken and that a negotiated solution to the acquisition of each required interest is sought which minimises disruption. Nevertheless, the Applicant believes that CA and TP powers are justified

- to ensure that the project can be developed on reasonable commercial terms within a suitable timescale; and
- in cases where there is disputed or unknown ownership.

Outstanding objections and progress on negotiations

- 29.5.81. At CAH1 the Applicant reported on progress to date in securing agreement with landowners: terms are agreed with the majority of

landowners but, in relation to freehold acquisition for the substation and National Grid infrastructure, two landowners have instructed their land agent not to engage with the Applicant and in relation to easements for the outfall drainage pipe, terms have yet to be agreed with two of the three affected landowners, one of which has yet to be established.

29.5.82. In response to a request from the ExA at CAH3, the Applicant gave a brief summary update: there is a total of 46 CA and TP objections:

- of the 20 where land rights are being sought, Heads of Terms are agreed on 12, under active negotiation on six and there are two where attempts to engage in negotiations have not been reciprocated; and
- of the 26 where land rights are not being sought, the Applicant intends to cause as little disturbance to their rights as possible and to resolve any remaining issues with private tenancies or grazing agreements through the landowner as landlord.

Funding

29.5.83. In response to questions put by the ExA at CAH1, the Applicant explained the funding options available – power purchase agreements, CfD or other financial arrangements – and said that this would not be decided until after the final investment decision: meanwhile, the Funding Statement will be kept under review and revised as necessary. The Applicant also reported that it is not yet known whether a parent company guarantee or an alternative form of security will be put in place.

29.5.84. In response to a request from the ExA at CAH3, the Applicant gave a brief update stating:

- how the project will be financed, whether through power purchase agreements, CfD or other arrangements, will be decided after the final investment decision;
- that the recent BEIS announcements that Allocation Round 4 will take place towards the end of 2021 with a doubling of capacity to be supported is welcomed; and
- that the property cost estimates for the Funding Agreement have been updated using more recent and detailed information [REP7-019].

29.5.85. By the close of the Examination there was a signed funding agreement [REP11-009] between the Applicant and parent company ScottishPower Renewables (UK) Limited.

- The ExA was satisfied with the Applicant's Funding Statement and appendices, and responses to questions posed during the Examination, and concludes that there is a reasonable prospect of the requisite funds for acquisition becoming available within the necessary timescale, to meet all financial liabilities arising from the exercise of the CA and TP powers sought.

Statutory Undertakers

29.5.86. In response to ExA questions at CAH1, the Applicant confirmed that negotiations were continuing and that updates would be submitted in accordance with ExA written questions ExQ1.3.4 in respect of statutory undertakers' land or rights and ExQ1.3.5 in respect of statutory undertakers' apparatus etc. These updates were submitted as requested by the ExA [REP3 089] [REP3 091] and throughout the Examination.

29.5.87. There were no statutory undertakers present and wishing to be heard at CAH2, other than NGET which spoke briefly to say that protective provisions are in a final form. The Applicant was requested by the ExA to give an update and confirmed that, in respect of statutory undertakers with land or rights to which PA2008 s127 applies:

- Agreement had been reached with Cadent Gas and its representation has been withdrawn;
- Anglian Water has agreed protective provisions with the Applicant;
- Network Rail has advised that it will withdraw its representation when the draft agreements are signed;
- Negotiations are progressing with Eastern Power Networks for compromise and asset protection agreements; and
- Protective provisions for NGET are in a final form, as NGET had stated earlier in the hearing.

The Applicant also confirmed that, in respect of statutory undertakers with apparatus etc to which PA2008 s138 applies:

- Negotiations are progressing with Eastern Power Networks for compromise and asset protection agreements;
- Protective provisions for NGET are in a final form, as NGET had stated earlier in the hearing; and
- The other statutory undertakers identified have either not made representations or have not responded to the Applicant's endeavours to engage.

29.5.88. The ExA requested an update at CAH3 and the Applicant advised that

- Cadent Gas has withdrawn its objection;
- Protective provisions are agreed with Anglian Water;
- Draft agreements with Network Rail are in a final form;
- Negotiations with Eastern Power Networks are progressing well; and
- The NGET protective provisions are in a final form and the side agreement is substantially agreed; NGET's submission earlier in the hearing is in agreement with this assessment;
- S138 undertakers (other than NGET and Eastern Power Networks reported above) have either not made representations or not responded; and
- Protective provisions for EDF Energy NGL (Sizewell B) and EDF NNB Generation Co Ltd (Sizewell C) are agreed subject to side agreements, and the Applicant expects them to be completed before the close of the Examination.

29.5.89. At the close of the Examination, there were no representations from statutory undertakers outstanding and not withdrawn.

- The ExA was satisfied with the outcome of the Applicant's negotiations with Statutory Undertakers.

Crown land and consent

- 29.5.90. Further to the ExA's written question ExQ1.3.3, at CAH1 the Applicant confirmed the position stated in its written response [REP1-123] that The Crown Estate does not own or have any interests in any land within the onshore Order limits. The ExA requested that the Applicant provide written evidence at Deadline 3 of Crown consent under PA2008 s135 as this is required for Crown interests at sea, in addition to any on land which might be discovered.

In response to the ExA request, the Applicant explained that its due diligence process had not highlighted any Crown land within the onshore Order limits [REP3-083] and that Agreements for Lease have been entered into with The Crown Estate for both the windfarm site (dated 15 February 2016) and for the offshore substation site and offshore export cable corridor (dated 1 March 2019).

- 29.5.91. In response to a question from the ExA at CAH3, the Applicant stated its view that if the Crown has no interest in the land within the onshore Order limits then section 135 of PA2008 is not engaged, and that this view is supported by The Crown Estate in its written submission of 17 March 2021 [AS-101].
- The ExA concludes from the information provided by the Applicant that the Applicant considers that Crown consent under PA2008 s135 is not required.

Public open space

- 29.5.92. The Applicant confirmed at CAH1 that there is no public open space land within the Order limits.
- The ExA is satisfied with the Applicant's confirmation that there is no public open space land within the Order limits.

The Public Sector Equality Duty (PSED)

- 29.5.93. In response to the ExA's request at CAH1, the Applicant said that it would provide written submissions at Deadline 3, including a written statement addressing how the SoS can discharge the Public Sector Equality Duty in respect of the CA and TP requests in the application. At Deadline 4 (four weeks later) the Applicant submitted a Public Sector Equality Statement [REP4-013].
- The ExA has considered that the Applicant's Public Sector Equality Statement was submitted by the Applicant at Deadline 4 rather than at Deadline 3 or with the application, and concludes that the ability of other parties to comment on the Applicant's Public Sector Equality Statement has not been significantly hindered by its late submission.

Matters raised at hearings: Affected Persons

- 29.5.94. Representations made by Affected Persons have been summarised above as objections numbered 1 to 39 under the heading Outstanding objections from Affected Persons.
- 29.5.95. At CAH2 the ExA invited all Affected Persons and additional Affected Persons present to make their representations, both in respect of the original application and the Deadline 1 request for additional land, with the Applicant having the opportunity to respond to each representation. Affected Persons were also invited to make representations in respect of human rights and PSED issues either as part of their oral submissions at this point in the proceedings or as post-hearing submissions.
- 29.5.96. At CAH3 the ExA invited all Affected Persons and additional Affected Persons present not already heard or fully heard to make their representations, both in respect of the original application and the Deadline 1 request for additional land, with the Applicant having the opportunity to respond to each representation. The ExA also heard representations in respect of human rights and PSED issues either as part of oral submissions or as post-hearing submissions. PSED issues are also considered in Chapter 27. The Applicant was given the opportunity to respond to each representation.
- 29.5.97. Where the ExA has not concluded on a particular objection, it has been carried forward as a matter outstanding at the end of the Examination.

Michael Lewis (25)

- 29.5.98. Mr Lewis said that communication with the Applicant had been unsatisfactory, and wanted to know:
- how and if his off road parking and key utilities and buildings near to the northern boundary of his property would be affected by the Applicant's proposals, particularly the change to the applications; and
 - why the Applicants wanted to acquire his rights.
- 29.5.99. The Applicant said it would provide a communication log and explained that it was seeking permanent rights to install water pipes to connect to the local drainage network and was not seeking to acquire the highway subsoil.
- The ExA is satisfied with the Applicant's response and concludes that the Applicant is not seeking to acquire the highway subsoil.

Elsbeth Gimson (20)

- 29.5.100. Dr Alexander Gimson, representing his mother Mrs Elspeth Gimson, raised issues of her access to a safe water supply, the option agreement, and the proposed removal of the trees planted after the 1987 storm.
- 29.5.101. In response to concerns about the water supply, the Applicants submitted a Landfall Hydrogeological Risk Assessment at Deadline 6 [REP6-021].

Wardens Trust (39)

- 29.5.102. Dr Alexander Gimson, representing Wardens Trust, said at CAH2 that
- The Wardens Trust is a significant community resource but doesn't appear to be on the Applicant's list of community organisations;
 - the impact on the Trust's water supply and any failure of the supply on business continuity is being considered by the Trustees: the charity could be mothballed for the duration of construction but would then be unviable, or it could move elsewhere but that is considered unreasonable and in any case the current location appeals;
 - the Wardens Trust charity has been set up specifically for children and other vulnerable people, and any impact on the water supply would mean that the charity would have to close; and
 - the proximity of the cable route alignment to the land and property used for Trust activities would have serious impacts on activities run by the Trust: the route should be straighter and further away from property used by the Trust and many concerns could be met if the route were to be moved back to its previous position: a taller fence would not be adequate mitigation and assistance is offered to help the Applicant move the cable alignment 200m west.
- 29.5.103. In response to concerns about the water supply, the Applicants submitted a Landfall Hydrogeological Risk Assessment at Deadline 6 [REP6-021]. In the matter of the bend in the cable route, the Applicant said that "the two primary factors were the residential properties to the east and maintaining, where practical, a 200m distance from the Sandlings SPA to the west." and that it does "not consider it appropriate to move the onshore cable corridor further west" [REP6 051]. The Applicant also said that it would welcome any information that would assist in clarifying Wardens Trust land interests, which are understood to relate to access.

Richard Reeves (34)

- 29.5.104. Richard Reeves endorsed what Dr Gimson had said in respect of the water supply and raised the issue of access to Ness House cottages.
- 29.5.105. The Applicant confirmed that access to Ness House cottages would be available at all times.
- The ExA is satisfied that access to Ness House cottages would be maintained.

Michael Mahony (26)

- 29.5.106. At CAH2 Mr Mahony sought clarification from the Applicant in respect of
- the hedgerows surrounding his property (ECHR Article 8 being engaged in respect of plot 116 which is immediately to the east of his garden hedge and should be moved further east);
 - the absence of justification for the need for the amount of land required (plot 116) from NGET and/or the Applicant, meaning that any further evidence provided cannot be tested at a hearing: such *ex post facto* evidence should therefore be given little if any weight by the ExA;

- the need for the small triangle of land in the south west of plot 116 which encroaches on his residential curtilage;
- the extent of rights being sought in plots 115 (permanent) and 116 (temporary) bearing in mind NGET's existing rights;
- vegetation clearance at plots 126, 117 and 117A;
- the need for plot 114 now that the Applicant has accepted changes to the design of the substations which will make them smaller: consequently there is scope to move the operational access road to the east so plot 114 which is a PRoW is no longer required.

Mr Mahony also stated that he considered that the Article 26 notice period (14 days) is both inadequate and inconsistent with the Article 27 notice period (28 days).

In response, the Applicant clarified [REP6-051] that it is not seeking powers to remove the hedge running along the eastern edge of plot 116, except for a small triangle where works may be required for access. The other hedges provide important screening and will not be removed but incorporated into the proposed landscaping. The powers sought for vegetation clearance (plot 117A) are for normal highway works such as cutting back overhanging tree branches but there would be no vegetation clearance for sight lines.

NGET said [REP6-108] that there would be no permanent rerouting of the overhead line over plot 116: there would be a need to place road signage but this would not block or restrict access to Mr Mahony's property and the small triangle of land in plot 116 would be required for a few weeks for scaffolding for protective netting across the B1121 while the wires are pulled across the road. NGET explained that it would also need TP of plots 116, 117A, 119, 120, 121 and 122A for works associated with Work No 43 and at the request of the ExA confirmed in its post-hearing submission the standard working widths and areas required.

NGET also confirmed that it completely endorses the powers applied for in the DCO, including where powers already exist, because:

- the rights required for the realignment works may be more than what is currently secured; and
- to avoid any challenge on the basis that rights already secured for one purpose are being used for another purpose: the TP powers applied for are standard.

29.5.107. At CAH3 Michael Mahony raised the following outstanding matters [REP8-201]:

- The extent of plot 116, the need for the small triangle of land and the need for an express requirement that no access will be taken to plots 116 or 115 from Saxmundham Road;
- The need for an express requirement not to remove hedgerow from plots 116, 117, 117A and 126;
- The requirement for plot 114 (the PRoW to the east of plot 116); and
- The purpose for which rights are sought in plots 115 and 116; to confirm that storage is only for works on Mr Mahony's land.

The Applicant was requested to consider these matters, respond in writing and update the Statement of Reasons to clarify the purpose for seeking rights over plot 116 in relation to the temporary and permanent transmission overhead line realignment.

The Applicant responded as follows [REP8-093]:

- The requirement for the small triangle of land at plot 116 is because of the short term need for scaffolding across the Saxmundham Road during re-stringing of the overhead line;
- No HGV will take access to plots 116 and 115 from Saxmundham Road;
- Any removal or lopping of hedgerow will be limited to the small triangle of land at plot 116; as stated at CAH2 vegetation clearance is for normal highway works such as cutting back overhanging branches and not to clear vegetation for sight lines; and
- The Statement of Reasons has been updated in respect of plot 116.

NGET also responded [REP8-157] by explaining that

- a 60m corridor width was needed, 30m each side of each realigned overhead line at plot 116, with safety scaffolding across the Saxmundham Road;
- plot 117A will be required for signage and scaffolding but no scaffolding will be placed at the western end of plot 117A at or over Mr Mahony's access/driveway and NGET will not require any closure or obstruction of the existing access; and
- Access would be needed to plots 116 and 115 for scaffolding works, but HGV access would be via the construction haul road from Snape Road.

No mention was made by the Applicant or NGET in respect of the use of plots 115 and 116 for storage for works not on Mr Mahony's land.

- 29.5.108. At CAH3 the ExA asked whether if conductors were replaced as a result of routine maintenance the works required would be the same as those proposed for this project.

NGET confirmed that the works would be the same and the Saxmundham Road would still need to be protected by netting of the same dimensions as that currently proposed.

Tessa Wojtczak (38)

- 29.5.109. At CAH3 the ExA noted Tessa Wojtczak's previous submissions [REP5-167] [REP7-096] [REP6-097] and her submissions following CAH2 [REP6-212] [REP6-213] [REP6-214], which she had been unable to attend, and asked her to summarise the effects of the proposals on her as an Affected Person and whether in her opinion the statutory tests are satisfied.

In response, she made the following points [REP8-247]:

- Wardens Trust and all those associated with it as a community resource, including vulnerable children, should enjoy rights of access over plots 12 and 14;
- Although the Applicant says that Wardens Trust came late to the table, she referred to the Trust and its work with vulnerable children and adults, pointing out their sensitivity to light and noise pollution, the importance of access to the tracks and lanes, the need for emergency access and dependence on the aquifer in her stage 4 consultation response in March 2019;
- In respect of the bend in the cable alignment, there is an earlier version of the cable route dated 11 February 2019, which shows the route staying west of the pond rather than east as it is now, and not directly abutting the Wardens Trust playing field as it does now: what is the reason for altering the route in the period between February and August 2019? and if justified is it proportionate? Natural England (NE) has advised her that to observe the buffer zone is best practice, but that *"it is for yourselves and the applicants to discuss alternative options to address your concerns. With the onus being on the applicant to propose suitable mitigation if the 200 m buffer zone were to be reduced."* ie that discussion about altering the route is possible and not ruled out;
- Wardens Trust playing field is to be landfall option C for the NGV Nautilus interconnector on the map included in the July 2019 briefing pack [REP1-377] and in its letter to the Applicant dated 17 April 2018 ESC states *"It is important that the cable Corridor can accommodate both SPR and National Grid projects and that if this cannot be achieved or will present significant loss of amenity then those site options should be dismissed."* – could the Applicant confirm that the cable route selection at plot 13 is not intended to accommodate any interests that NGV may have for the Nautilus project; and
- There is no statutory buffer zone for residences and their gardens.
- In respect of Article 1 of the First Protocol to the ECHR, the human right to a safe water supply, the Applicant's Landfall Hydrogeological Risk Assessment [REP6-021] has not fully addressed her concerns [REP7-096]; and
- In respect of the weighing of any potential loss of ECHR rights against the public benefit, these need not be weighed if a split decision is taken and the onshore infrastructure is relocated to a brownfield or other available site.

29.5.110. The Applicant replied [REP9-025] that:

- Right of access to Ness House and Ness cottages will be maintained;
- The outline COCP has been revised [REP8-017] to take account of the sensitivity of Wardens Trust and its users;
- The earlier version of the cable alignment was amended following pre-application consultation in order to maintain a 200m buffer zone in respect of the Sandlings SPA [REP8-093] [REP8-100];
- In relation to the onshore cable route, other potential energy projects were not considered; and

- In respect of the water supply, a Landfall Hydrogeological Risk Assessment was produced [REP6-021] and comments were responded to [REP8-052];

Lisa Kenyon and Neil Kenyon

- 29.5.111. Lisa Kenyon and Neil Kenyon did not make relevant representations objecting to the proposals, but were both represented by Mr Richard Cooper at CAH2 to seek clarification on the use of their land (plots 181 and 182) by the Applicant for proposed works at Marlesford, bearing in mind issues of flood risk, habitats and archaeology, and uncertainty as to whether the works at Marlesford Bridge would go ahead and consequently whether any of their land would be needed.
- 29.5.112. The Applicant acknowledged that the land is in Flood Zone 3A and 3B and that the flood risk issue has been discussed with the EA and confirmed that the works proposed at Marlesford Bridge relate solely to Abnormal Indivisible Loads (AIL). If Lowestoft is used (as it provides the shortest route) then the AIL would not travel via Marlesford, no works to the bridge would be necessary and the Kenyons' land would not be required. However, if facilities are not available at Lowestoft at the time the AIL are transported, then Felixstowe is the next candidate port and the AIL would be transported via Marlesford: in this case, Marlesford Bridge would be used and the bridge would need to be assessed to determine whether any works were needed, in which case the Kenyons' land adjacent to the bridge would be needed to facilitate the works. Given the flood risk issue, the land currently included within the Order would enable micro-siting subject to discussions with the EA and the issue of an environmental permit, and the Applicant would be in touch with the Kenyons nearer the time.

- The ExA concluded that Lisa Kenyon and Neil Kenyon are content.

St Peter's Church Theberton PCC

- 29.5.113. St Peter's Church Theberton PCC had been granted IP status by the ExA [PD-043] to enable Mr Ilett to attend CAH3 on its behalf in respect of offsite highway works proposed by the Applicant which St Peter's PCC was concerned might introduce a public right of way through the churchyard [REP7-085].

At CAH3 the Applicant responded to the PCC's concerns by explaining that all proposed works would be on the public highway and subject to the approval of the local highway authority: no works would be carried out within the grounds of St Peter's Church [REP8-093].

- The ExA concluded that St Peter's Church Theberton PCC is content.

The Book of Reference: Wardens Trust

- 29.5.114. The ExA noted at CAH3 that the Wardens Trust is not included anywhere in the Book of Reference and requested that the Applicant clarify its reasoning in respect of the exclusion of Wardens Trust as a Category 3 party, particularly in respect of plot 14.

29.5.115. The Applicant explained that Wardens Trust was included in the initial search, received all relevant notification and was consulted up to and including PA2008 s42 consultation. The Trust was excluded following the Applicant's final assessment because

- The potential impact of the works will be temporary, so there could be no claim under Part 1 of the Land Compensation Act 1973;
- The project would not interfere with the Trust's property rights over another's land (s10 Compulsory Purchase Act 1965); and
- The onshore cable is intentionally routed away from properties: although it is close to the leased area of the Wardens Trust at the entrance to the site, the mitigation measures included in the outline Code of Construction Practice [REP7-025] and the fact that the works would be located at the furthest extent of the leased area and would be temporary would mean no claim under PA2008 s152.

29.5.116. Provision by Dr Gimson of the Wardens Trust lease information at Deadline 6 [REP6-168] did not alter the Applicant's view. Furthermore, the Applicant noted that, as stated in its response to the Wardens Trust land interests [REP7-058], the only access right granted to the Trust is along the northern track which is outside the Order land: the Applicant has not identified the Wardens Trust as enjoying access rights over plot 14. Access to the Wardens Trust is assumed to be from Sizewell Gap along the track to the east of plots 15 and 16 and then along Sizewell Hall Road to the east of plots 13 and 14, all outside the Order land.

- The ExA has considered the arguments put by Wardens Trust and by the Applicant and is satisfied with the Applicant's reasons for Wardens Trust not being included in the Book of Reference.

The Book of Reference: William Halford and Jane Rossin

29.5.117. After CAH3, submissions were made by William Halford and Jane Rossin in respect of their property Riverwood on the west side of the Hundred River, which was inspected by the ExA on 27 January 2021 [EV-003]. In their submissions, which are essentially identical, they state that they each completed and returned a Land Interest Questionnaire in 2018 and they each explain why they should qualify as a Category 3 claimant [REP8-194] [REP8-252]:

- They live 71m from the Order limits;
- The rear garden is 26m from the Order limits at the Hundred River;
- A major contributor to the market value of the property is its quiet, wooded rural location alongside the Hundred River with views across attractive meadows of the Aldringham River Hundred SLA;
- They quote another property further from the Order limits where the owner is listed without reference to any particular plot of land;
- They anticipate that the construction noise, dust and visual intrusion arising from the construction of the haul roads, trenching, cable laying, construction of the open cut watercourse crossing and associated overpumping activities, and repeated turnings of HGV and other construction vehicles on the east side of the Hundred River will affect them as they spend time in their garden;

- The Hundred River is the only separation between them and Work No 19; and
- There is no commitment to build the projects concurrently.

29.5.118. The Applicant responded [REP9-022] [REP9-024] and explained its reasoning with reference to the additional construction phase controls in the updated Outline Code of Construction Practice [REP8-017] and the Project Update Note [REP2-007] in respect of sequential construction.

- The ExA has considered the submissions by William Halford and Jane Rossin and the Applicant's responses and is satisfied with the Applicant's reasons for William Halford and Jane Rossin not being included in the Book of Reference.

Further changes to the application near Ness House

29.5.119. Following CAH3 a further request for additional land at plot 13 was made [AS-104] [REP11-053], relating to proposed reductions in the Order land required at Work No 9 near Ness House and the moving of the cable route further west, away from Ness House. Tessa Wojtczak and Wardens Trust made written representations in respect of the changes.

Tessa Wojtczak (38)

29.5.120. Tessa Wojtczak [REP11-188] made the following points:

- if the change were indeed minor, why had the Applicant stated as recently as CAH3 that it was impossible to make the change, and why could it not have been made much earlier within the Examination?
- it had been made clear by Louise Burton of NE in her email read out at CAH3 that there was scope for discussion and that consequently the Applicant's reliance on the need to observe the 200m buffer zone to the SPA was not valid;
- the increased separation is unlikely to reduce disturbance, either actual or "perceived" to any degree to the highly vulnerable and sensitive users of the Wardens Trust facilities; it has been apparent throughout the ground investigation works being carried out how the intrusiveness and noise have affected the character and peacefulness of this location and this will be dramatically increased during construction;
- the solid boundary fence will adversely affect the deer whose regular roaming pathway this is (photographs included in her submission);
- use of herbicides to discourage breeding birds, and effects on biodiversity; and
- soil stockpiles providing noise attenuation; aesthetically they will be a significant disbenefit.

29.5.121. In its response [REP12-048], the Applicant did not comment on the points about change of position and disagreed with her assessment that the increased separation is unlikely to reduce disturbance. In respect of her fourth point, the Applicant said that the type of fence *"has yet to be determined and would take into account the environmental and ecological receptors to reduce the risk to disruption of commuting routes of various species."*; in respect of her point about herbicides to

discourage breeding birds, the Applicant said that *"Deterrent measures will be considered with reference to relevant guidance"* and in respect to her point about soil stockpiles that this is normal practice.

Wardens Trust (39)

- 29.5.122. Dr Gimson on behalf of Wardens Trust [REP11-189] stated that he was informed on 23 March that the cable corridor could not be moved in the vicinity of plot 13 but that even though it had now been moved it would still significantly impact the enjoyment of clients. Access to local walks would still be enormously restricted and all the concerns he expressed previously in respect of the amenity value of the Wardens site, risks to the water supply, cumulative impacts and lack of meaningful engagement remained.
- 29.5.123. In its response [REP12-049], the Applicant does not address points already made in Deadline 9 submissions and refutes the claim that the project will significantly impact the enjoyment of clients who attend Wardens Trust, saying that construction activities and durations as set out in the revised outline Code of Construction Practice [REP11-015] *"does not amount to prolonged disruption to receptors at the Wardens Trust"* and that at CAH2 Dr Gimson on behalf of the Trust had said that *"if the cable corridor was moved, not a long distance, a short distance, then we think that many of our concerns could be met"* citing the additional mitigation measures set out in the revised outline Code of Construction Practice [REP11-015].
- 29.5.124. All other parties wishing to make representations on the changes had the opportunity to do so at Deadline 12. None were received.
- The ExA has considered the representations made in respect of the change to the cable alignment at plot 13 and is satisfied that it strikes a reasonable balance between impacts on the Sandlings SPA and impacts on residential property at and around Ness House.

Human rights

- 29.5.125. The ExA considered human rights throughout the Examination with reference to:
- The Human Rights Act 1998;
 - Article 6 of the ECHR (fair and public hearing);
 - Article 8 of the ECHR (respect for private and family life, home and correspondence);
 - Article 1 of the First Protocol to the European Convention on Human Rights (ECHR) (peaceful enjoyment of possessions);
 - the degree of importance to be attributed to the existing uses of the land which is to be acquired; and
 - the weighing of any potential loss of ECHR rights against the public benefit.
- 29.5.126. We have considered these matters in relation to the application as amended. We note that the Applicant followed the statutory procedures in respect of the preparation and examination of the application and

conducted proper consultations. Those affected by the proposed project have had various opportunities to make representations and to be heard, including at Open Floor Hearings and Compulsory Acquisition Hearings. Consequently, we are satisfied that there has been no interference with Article 6 rights.

29.5.127. With regard to Article 8, the ExA has considered the effects of the project on the living conditions of local residents both during construction and operation. Although there would be impacts on living conditions, the ExA finds that such impacts would be controlled and mitigated through the requirements attached to the dDCO. We do not consider that the residual impacts would be such as to amount to an interference with Article 8 rights.

29.5.128. The exercise of CA and TP powers would amount to an interference with the right to peaceful enjoyment of possessions under Article 1 of the First Protocol to the ECHR which states that

"No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law."

29.5.129. Tessa Wojtczak said [REP8-247] that she did not think that the Applicant's Hydrogeological Risk Assessment [REP6-021] had fully addressed her concerns in respect of the human right to access a safe water supply. The Applicant responded [REP9-025] that it was highly unlikely that construction activities at the surface would adversely impact local hydrogeology and groundwater, and that in relation to the weighing of any potential loss of ECHR rights against the public benefit, it was the Applicant's view that the test of proportionality is satisfied and strikes a fair balance between the public benefit and the interference with the rights in question.

29.5.130. The ExA considered these representations and the Applicant's responses and is satisfied that the Applicant's proposals strike a fair balance between the public benefit and the interference with individual rights, that the rights sought are the minimum necessary to facilitate the delivery of this NSIP, that those whose land is affected would be entitled to compensation in accordance with the law, and that the Applicant has committed to mitigate the effects of uncertainty through provision of good and timely information through the Stakeholder Communications Plan which will form part of the CoCP.

- The ExA therefore finds that, if the SoS concludes that development consent should be granted and that compulsory acquisition is necessary to facilitate the NSIP, that any infringement of ECHR rights would be proportionate and justified in the public interest, that the provisions in the dDCO would strike a fair balance between the public interest in the development going ahead and the interference with the rights of those affected, and that any interference would be in accordance with the law.

The Public Sector Equality Duty (PSED)

29.5.131. This was predominantly dealt with at CAH3 as part of submissions made under other earlier agenda items, but the ExA made it clear that representations could be made at any time during the Examination.

The ExA requested that the Applicant clarify in writing

- why no significant impacts have been predicted on any current use of land which the Applicant intends to acquire compulsorily;
- how agreeing bespoke mitigation measures via (presumably individual) consultation with affected landowners justifies screening Land Use out of further assessment; and
- why there will be no significant impacts on the activities of the Wardens Trust and what measures the Applicant is discussing with the Trust in order to assist the SoS in discharging the SoS's PSED obligations.

29.5.132. The Applicant responded to these points [REP8-093] as follows:

- Point 1): The Applicant has assessed the owners and occupiers of all land that could be acquired compulsorily and has not identified any groups with protected characteristics for the purposes of the Equality Act 2010;
- Point 2): on the basis that, with the exception of the substation site and some landscaping and ecological mitigation sites, which is all agricultural land, the land is not residential and only required on a temporary basis and can return to its former use post construction;
- Point 3): in respect of the aquifer, the Applicant undertook further studies which show that HDD can readily be used through an aquifer [REP6-024] and also undertook a landfall hydrogeological risk assessment [REP6-021] which noted the sensitivities of the Wardens Trust and concluded that the risks to the water supply would be negligible: the Applicant has also offered to provide a backup water supply for the duration of the HDD works, and has identified the Wardens Trust as a receptor where enhanced mitigation would apply including reduced speed limit (10mph) and a 16.1m working width.

29.5.133. Richard Reeves commented on the Applicant's hydrogeological risk assessment as follows [REP7-084]:

- The aquifer is close to ground level;
- The chalk groundwater below the London Clay is not relevant as drinking water is extracted from levels above the clay, *"these upper levels of mixed crag are classified as a "Principal aquifer"*;
- There are various figures quoted for the distance of the landfall HDD bores from the Wardens Trust site;
- There is no evidence of existing contamination sources;
- The HDD process will not leave the aquifer levels unaffected; and
- No specific form of mitigation for any adverse effect on the water supply has been put forward: *"What will be tied in to the well?"* Bottled water or a water bowser are not viable or acceptable.

29.5.134. The Wardens Trust was not satisfied with the Applicant's responses in respect of the aquifer, and reiterated its concerns [REP11-189],

submitting a specialist independent report on the water supply [REP13-076], which rejected the Applicant's hydrogeological work as incomplete and inadequate, and recommended an extended period of data collection, ground investigation, hydrogeological monitoring and ground modelling.

Matters that were outstanding at the end of the Examination

Summary

- 29.5.135. At the close of the Examination, there were no Statutory Undertakers with any outstanding concerns or issues in respect of the application.
- 29.5.136. At the close of the Examination, representations from the following (39) affected persons had not been withdrawn:
- St Edmundsbury and Ipswich Diocesan Board of Finance (DBF);
 - the Sizewell Estate Partnership;
 - the Ogilvie Family Trust;
 - Mr J H Rogers;
 - Mrs Ann Dallas;
 - Graeme Bloomfield;
 - Fielden Limited;
 - Natasha Mann;
 - Richard Mann;
 - Peter Mann;
 - D A Phillips & Co Ltd;
 - June Bloomfield;
 - Martin Cotter;
 - Angela Daniell;
 - Elizabeth Everett;
 - Jonathan Franklin;
 - Nicola Fulford;
 - Simon Fulford;
 - William Gault;
 - Mrs Elspeth Gimson;
 - Martin Handscombe;
 - Andrew Heald;
 - Guy Heald;
 - Barbara Jeffries;
 - Michael Lewis;
 - Michael Mahony;
 - Mrs C A Morling;
 - Mrs Annabel Newberry;
 - Simon Newberry;
 - Wendy Orme;
 - Christopher Orme;
 - Margaret Reeve;
 - William Reeve;
 - Richard Reeves;
 - Beverley Strowger;

- Theresa Tollemache;
- Maria Toone;
- Tessa Wojtczak; and
- The Wardens Trust;

29.5.137. Various issues arising during the Examination have been concluded on by the ExA already in this section of this chapter of the report. However, at the close of the Examination the following substantive issues remained outstanding:

- Crown land and consent;
- Book of Reference – Category 3 persons;
- **Choice of cable alignment offshore;**
- Alternative substation sites: Broom Covert, Bramford, Bradwell and the old Leiston airfield;
- Land and operational land at the NGET and EA substations;
- The need for a 70m wide cable corridor;
- The cable route at Wardens Trust (plot13);
- Falling away provisions;
- Time limit for exercise of CA powers;
- PSED; and
- Outstanding objections from Affected Persons, including substantive and sustained objections from
 - Michael Mahony;
 - Dr Gimson representing Mrs Elspeth Gimson;
 - Dr Gimson representing Wardens Trust; and
 - Tessa Wojtczak

29.5.138. Each of these issues is considered in the remainder of this section.

Outstanding matters: Applicant's case

Crown land and consent

29.5.139. Written confirmation from The Crown Estate that the Commissioners consent was submitted by the close of the Examination [REP13-041], subject to the wording included with the consent [REP9-054], which contains minor additions (shown in bold) to the Applicant's final preferred dDCO [REP12-013] and is as follows:

*"41.— (1) Nothing in this Order affects prejudicially any estate, right, power, privilege, authority or exemption of the Crown and in particular, nothing in this Order authorises the undertaker or any **lessee or** licensee to take, use, enter upon or in any manner interfere with any land or rights of any description (including any portion of the shore or bed of the sea or any river, channel, creek, bay or estuary)—*

*(a) belonging to Her Majesty in right of the Crown and forming part of **The Crown Estate** without the consent in writing of the Crown Estate Commissioners;*

(b) belonging to Her Majesty in right of the Crown and not forming part of The Crown Estate without the consent in writing of the government department having the management of that land; or

(c) belonging to a government department or held in trust for Her Majesty for the purposes of a government department without the consent in writing of that government department.

(2) A consent under paragraph (1) may be given unconditionally or subject to terms and conditions; and is deemed to have been given in writing where it is sent electronically."

29.5.140. However, the ExA notes that Article 41 of the final version of the Applicant's preferred dDCO [REP12-013] has not adopted this wording.

- The ExA concludes that the rDCO should contain The Crown Estate wording as provided by The Crown Estate in [REP9-054] [REP13-041].

Book of Reference – Category 3 persons

29.5.141. The ExA noted that the Wardens Trust is not included anywhere in the Book of Reference. The Applicant explained its approach and said that its view was that temporary interference might be sufficient for a claim for injurious affection, but that this is unlikely because the works are limited in duration, unless the scale of interference is more than it is reasonable to expect a landowner to suffer.

29.5.142. Submissions were made by William Halford and Jane Rossin in respect of their property, Riverwood, which is 71m from the Order limits and the rear garden is 26m from the Order limits at the Hundred River. The Applicant explained that there would be additional construction phase controls in the updated Outline Code of Construction Practice [REP8-017] and the Project Update Note [REP2-007] in respect of sequential construction.

- The ExA has considered the submissions by Wardens Trust, William Halford and Jane Rossin and the Applicant's responses and concludes that Wardens Trust, William Halford and Jane Rossin need not be included in the Book of Reference.

Choice of cable alignment offshore

29.5.143. The Applicant maintained the need to retain alternative offshore corridors, arguing that flexibility was needed as the final layout of the site has not yet been determined.

- The ExA is satisfied of the Applicant's need to retain alternative offshore corridors, and concludes that these should remain within the Order.

Alternative substation sites: Broom Covert, Bramford, Bradwell and the old Leiston airfield

29.5.144. Tony Morley said that the Broom Covert site is

- large enough to take all the proposed projects;
- close to Sizewell for a grid connection;
- close to the shoreline to minimise cable runs;

- although AONB it will be surrounded by workers' caravan parks and reserves of construction material during construction of Sizewell C;

and that a previous inquiry has ruled that National Energy Projects may be considered in such areas and the Leiston substation was built on that basis.

29.5.145. However, the Applicant maintained throughout the Examination that CA of the land at Broom Covert was not feasible given

- EDF status as a statutory undertaker;
- the importance of the land to Sizewell C; and
- EDF need to protect the safety and security of the existing Sizewell B power station.

and concluded that the policy and consenting challenges outweighed the increased cost of further cabling to the proposed site at Grove Wood.

29.5.146. The Applicant also maintains that Bramford is unsuitable due to various site and cable route constraints and the need for CA.

29.5.147. The Applicant maintains that Bradwell was considered unviable at an early stage as it would require extension of an overhead line with the consequential environmental, timetable and consenting challenges.

29.5.148. The Applicant stated that Old Leiston airfield and Harrow Lane, Theberton have problems associated with the proximity of nearby residential property, a caravan park, Leiston Abbey and Theberton village, the openness of the landscape and views and the absence of screening.

- The ExA has given careful consideration to the arguments put and is satisfied with the Applicant's assessment of these potential alternative substation sites: the ExA therefore concludes that they are not viable alternatives to the site proposed in the application.

Land and operational land at the NGET and EA substations

29.5.149. The ExA asked about the "downward" case where only one of the East Anglia projects is consented, and the "upward" case where other projects connect to the NGET substation at Friston.

29.5.150. Mr Mahony said that the NGET response to the downward case suggests little or no regard for good design and sustainability; and that in its response to the upward case, NGET was trying to distance itself from potential NGV connections at Friston and the extent to which the NGET substation would need to be expanded.

29.5.151. NGET confirmed its requirements for its grid connection substation, and that it anticipates the Applicant using its CA powers under the DCO and subsequently transferring the necessary TP powers, land and rights to NGET.

NGET also confirmed [REP6-108] that

- although it is possible that other projects may connect into the proposed NGET substation, each would have to get a separate DCO to acquire the necessary land;
- if only one of the East Anglia projects proceeds (the downward case) then only the connection bay would be removed which would not alter the building footprint, and [REP3-111] both overhead lines will have to be connected to the new substation which due to its component parts will be the same size; and
- it is public knowledge that NGV is proposing to develop two separate interconnector projects, Nautilus and Eurolink, but NGET is not aware that NGV has taken any final decision (the upward case).

29.5.152. NGET argued that the permitted development rights should not be removed, otherwise the operational capability of this important national infrastructure would be compromised.

- The ExA has considered all representations in this matter carefully and has concluded that the case is made out for the application of conditions to govern the exercise of certain Permitted Development Rights in relation to the NGET substation. In summary these seek the approval of an amended operational drainage management plan and landscape plan for substantial permitted development works. The detail of this recommendation is set out further in Chapter 30 and Sections 30.4 and 30.5 below.

The need for a 70m wide cable corridor

29.5.153. The Applicant's position is that a typical working width of 32m would be needed to ensure thermal independence, room for a haul road, temporary works and PRow diversions, sufficient space to store excavated material and to manage surface water. This working width would be in the optimum location within the 70m corridor.

29.5.154. The same 70m corridor would apply if the project is built sequentially or at the same time as the other East Anglia project.

29.5.155. If the Order limits were reduced from 70m and only this project were to proceed then this would limit micro-siting and opportunities to reduce environmental impact, and result in sub-optimal land use.

29.5.156. The Applicant explained its two stage approach, whereby temporary possession is taken first and the permanent rights acquired later when the extent of the land requirement is known. Powers of compulsory acquisition would hence only be exercised over the land which is actually required permanently, typically 20m for each project.

- The ExA is satisfied with the Applicant's proposals and that CA powers would only be exercised over the land which is actually required permanently: consequently, the ExA concludes that the test in s122(2)(a) PA2008 is satisfied in respect of the cable corridor.

The cable route at Wardens Trust (plot 13)

- 29.5.157. Representations were made suggesting that the cable route be straightened out per the alignment consulted on in 2019 (the 2019 alignment) as NE had stated that the 200m buffer zone to the SPA could be discussed in relation to the need to maintain distance from Ness House and other nearby residential property.
- 29.5.158. The Applicant remained of the view at CAH3 on 18 March 2021 that in view of the proximity of the Sandlings SPA and the need to maintain a 200m buffer zone, and also to allow the cable to pass squarely under the existing overhead line, the nature and extent of the acquisition sought was reasonable and did not amount to over-acquisition compared with the earlier February 2019 alignment. However, on 22 April 2021 the Applicant submitted a change request to move the alignment at plot 13 approximately 70m westwards, away from the residential property, thereby reducing the overall land requirement.
- 29.5.159. All those with an interest in the land consented to the change but representations received from Affected Persons indicated that the change would make little if any difference.
- The ExA has given careful consideration to this late change, and concludes that the revised alignment is reasonable and does not amount to over-acquisition compared with the February 2019 pre-application alignment.

Falling away provisions

- 29.5.160. The Applicant maintained that it did not consider such provisions (for rights in any land not required if a particular alternative or option is not selected) to be necessary because they would not be standard and the CA provisions are limited in terms of the land and rights which can be acquired: no landowners had expressed concern and the CA powers only subsist for a limited time and then fall away anyway.
- The ExA has considered this issue and has concluded that the weight to be accorded to the need for Proposed Development is such that it outweighs the aggregate of other harms occasioned by the onshore works. For this reason, the ExA has determined not to recommend that the DCO should contain falling away provisions supporting a 'split decision'. Further reasoning on this matter can be found in Chapter 28, Chapter 30 and in Chapter 31.

Time limit for exercise of CA powers

- 29.5.161. Following the change proposed by the Applicant to Requirement 1, the Applicant explained to the ExA the apparent discrepancy between the seven years cited in Article 19 and the five years in Requirement 1. The two stage approach proposed means that temporary possession is taken first and the permanent rights are only acquired later when the extent of the land requirement is known. The longer period also gives more time to settle agreements and may reduce the need to exercise CA powers.
- The ExA has considered the Applicant's argument in respect of the apparent discrepancy in the time periods in Article 19 and

Requirement 1, and is satisfied with the Applicant's two stage approach: consequently the ExA concludes that the provisions in Article 19 are satisfactory.

The Public Sector Equality Duty (PSED)

- 29.5.162. The Applicant submitted a Public Sector Equality Statement during the Examination and maintained its position that:
- no significant impacts have been predicted on any current use of land which the Applicant intends to acquire compulsorily because no people or groups with protected characteristics have been identified for the purposes of the Equality Act 2010;
 - agreeing bespoke mitigation measures justifies screening land use out of further assessment because, with the exception of the substation site and some landscaping and ecological mitigation sites, which is all agricultural land, the land is not residential, is only required temporarily and can return to its former use post construction;
 - there will be no significant impacts on Wardens Trust because
 - further studies show that HDD can readily be used through an aquifer;
 - the Applicant's hydrogeological risk assessment has noted the sensitivities of the Wardens Trust and concluded that the risks to the water supply would be negligible;
 - the Applicant has also offered to provide a backup water supply for the duration of the HDD works; and
 - the Applicant has identified the Wardens Trust as a receptor where enhanced mitigation would apply including reduced speed limit (10mph) and a 16.1m working width.
- 29.5.163. Richard Reeves criticised the Applicant's hydrogeological risk assessment, saying that HDD could affect the aquifer levels and that no specific or satisfactory form of mitigation for any adverse effect on the water supply has been put forward.
- 29.5.164. The Wardens Trust was not satisfied with the Applicant's responses in respect of the aquifer, and submitted a specialist independent report which rejected the Applicant's hydrogeological work as incomplete and inadequate.
- 29.5.165. Tessa Wojtczak wrote in respect of PSED with reference to the Wardens Trust, commenting on the Applicant's Public Sector Equality Statement and taking issue with the Applicant's conclusion "*no differentiated or disproportionate impacts on groups with protected characteristics under the Equalities Ac 2010 (sic) are predicted at any phase of the Projects.*". In her view "*the impacts on the users of Wardens Trust have not been adequately considered, or considered at all*".
- The ExA has considered Tessa Wojtczak's representations in respect of her outstanding concerns about PSED and concludes that the Applicant's approach is reasonable.

Outstanding matters: individual objectors

Michael Mahony (plots 114, 115, 116)

29.5.166. Michael Mahony maintained his position in respect of the following matters [REP8-201]:

- The extent of plot 116: hedgerows will not be removed but NGET has not justified why plot 116 is so extensive or the need to encroach on residential property (the small triangle of land);
- The requirement for plot 114, as the operational access road can now be moved further east following the reduction in size of the EA substation;
- Plots 115 and 116: the purpose and works numbers for which temporary rights are sought: the DCO and Statement of Reasons require amendment.

29.5.167. The Applicant responded [REP9-023] that

- In respect of plot 116:
 - Neither the Applicant nor NGET are seeking to rely on the current easement;
 - The rights being sought are similar to those that the land was subject to at the time of purchase, and with the exception of the small triangle relate to agricultural land; and
 - NGET had explained further detail on the extent of land was provided [REP8-157] and advised that the rights sought are entirely typical easement rights.
- In respect of plot 114, the Applicant explained that this plot is land which is affected by both Work no 33 (landscaping) and Work No 34 (the operational access road) and that the use and extent of plot 114 are therefore justified.
- In respect of plots 115 and 116, the Applicants are of the view that
 - Schedule 9 aligns with the works required over this land; and
 - the Statement of Reasons was adequately amended [REP8-009];
 - consequently no further amendment of either the DCO or the Statement of Reasons is required.
- The ExA has given careful consideration to the submissions made by Mr Mahony during the Examination, and to the responses from NGET and the Applicant, is satisfied that the rights sought over his land are both necessary and proportionate, and concludes that the tests in s122 PA2008 are satisfied.

Mrs Elspeth Gimson

29.5.168. The closing submission from Dr Alexander Gimson [REP13-095], representing his mother Mrs Elspeth Gimson, a vulnerable adult, maintains that, notwithstanding the recent proposal to alter the order limits of the cable route at plot 13, concerns remain in respect of:

- access to a safe water supply:
 - the potential risk of directional drilling;

- the report submitted by the Applicant examining that risk cannot be considered an objective scientific assessment of risk;
- the report submitted by Dr Gimson (BA Hydro Solutions) states that *"the risk assessment should not be accepted as being complete or valid"*;
- offering a temporary water bowser indicates an admission by the Applicant that there is some risk; but
- the magnitude of risk is not clear, so users are unable to understand and decide whether that risk is acceptable or not; and
- the solution is not a water bowser;
- the option agreement, particularly the requirement to withdraw any representations made prior to the agreement, which means that objections could not have been made and is *"corrosive of trust in an open and fair planning process"*; and
- cumulative impacts: *"It is now clear that National Grid Ventures intend to use Friston substation to connect into the National Grid."* And resulting concern over a prolonged period of construction activity.
- The ExA has considered these submissions and the arguments advanced by the Applicant during the Examination, and concludes that insofar as they relate to CA and TP the issues raised are capable of being addressed satisfactorily within the provisions in the dDCO.

Wardens Trust

29.5.169. In its closing submissions [REP13-077] Wardens Trust summed up its outstanding objections as follows:

- the rationale for the cable corridor route, and its proximity to and consequent impacts on the Wardens site;
- loss of amenity value to the Wardens site;
- failure to address concerns about the water supply at Ness House;
- inadequate hydrogeological risk assessment; and
- cumulative impacts, which threaten the Trust's long term viability.

The Wardens Trust also raised the issue of lack of meaningful engagement and trust, and supported a split decision.

- The ExA has weighed the arguments put both on behalf of Wardens Trust and by the Applicant, and is satisfied that the revision to the cable alignment at plot 13 achieves a reasonable balance in respect of proximity to both the Sandlings SPA and the Wardens site, that concerns about the water supply are capable of satisfactory resolution and that cumulative impacts have been adequately assessed: consequently in respect of the cable route the tests in PA2008 are satisfied.

Tessa Wojtczak

29.5.170. In her closing submissions [REP13-128], Tessa Wojtczak summed up her outstanding objections relating to:

- cumulative impact:

- the Applicant's failure to undertake a full cumulative impact assessment;
- if this application is granted, multiple others will follow, changing this region for ever;
- a lost opportunity for innovation and engagement, quoting Rt Hon Dr Therese Coffey MP: *"I don't think it's good enough for the Applicant simply not to engage in this developing policy landscape that is rapidly emerging"*;
- biodiversity;
- destructive or careless actions by the Applicant's contractors on the recent geotechnical/archaeological surveys;
- groundwater resources and the water supply at Ness House/Wardens Trust;
- non-disclosure agreements; and
- tourism and the local economy, and in particular the response of the Applicant to comments by Cllr Jocelyn Bond and her resignation from ESC.
- The ExA has weighed the arguments put both by Tessa Wojtczak and by the Applicant, insofar as they relate to CA and related issues, and is satisfied that they are capable of satisfactory resolution through the provisions in the dDCO.

29.6. CONCLUSIONS

General consideration of the Applicant's case

- The ExA concludes elsewhere in this report that development consent should be granted. Consequently the compelling case in the public interest for the land to be acquired compulsorily is made.
- The ExA has examined all the relevant application documents and documents submitted by the Applicant during the Examination and find that they meet the requirements of the relevant regulations and guidance.
- As the Applicant seeks CA powers within the dDCO in respect of the original application for both land and rights over land, the ExA concludes that the requirements of s123(2) of PA2008 are satisfied.
- In respect of the first change to the application requiring additional land, the ExA is satisfied that all additional Affected Persons were given adequate opportunity to be heard and is satisfied that the requirements of the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 (as amended) are met, and therefore that the test in s123(4) PA2008 is satisfied.
- In respect of the further change to the application requiring additional land, the ExA is satisfied that all parties affected by the change consent to the inclusion of the additional land in the Order and therefore that the test in s123(3) PA2008 is satisfied.
- The ExA has considered the Applicant's Funding Statement and appendices and notes that there is a signed funding agreement in place between the Applicant and its parent company: the ExA asked questions during the Examination, was satisfied with the Applicant's responses, and concludes that there is a reasonable prospect of the

requisite funds for acquisition becoming available within the necessary timescale, to meet all financial liabilities arising from the exercise of the CA and TP powers sought.

- The ExA has considered carefully both the case put by the Applicant in the Statement of Reasons and the Relevant Representations from Affected Persons, and has also given careful consideration to the responses to our written questions and to submissions made at the CA hearings, both by the Applicant and by Affected Persons.
- The ExA recognises that the Applicant's approach to design flexibility could lead to some uncertainty for landowners in respect of the amount of land required and the timing of the exercise of compulsory powers, but concludes that the Stakeholder Communications Plan which will form part of the Code of Construction Practice (CoCP) would mitigate the effects of uncertainty on landowners.
- Drawing these findings together, the ExA concludes that the Applicant's case is generally satisfactory and that the relevant statutory tests and guidance are met, both in respect of the original application and the changes to it.

Individual objectors

- The ExA notes that discussions are underway with most of the landowners and that many have reached the stage of agreeing heads of terms and instructing solicitors, and concludes that the Applicant is seeking to acquire the necessary land and interests by agreement where possible.
- Having regard to the effects of the project on Affected Persons overall, and having taken into consideration the mitigation proposed by the Applicant, the ExA concludes that (if the SoS is minded to grant development consent) acquisition of the powers sought would be proportionate and justified by the public interest in facilitating the Proposed Development, and that the public benefit resulting from this nationally significant infrastructure project going ahead would outweigh the private loss which would result.

Human rights

- The ExA considered human rights throughout the Examination with reference to relevant legislation in relation to the application as amended, and concludes that there has been no interference with Article 6 or Article 8 rights.
- Although the exercise of CA and TP powers would amount to an interference with the right to peaceful enjoyment of possessions under Article 1 of the First Protocol to the ECHR, the ExA is satisfied that any interference would be in accordance with the law, the rights sought are the minimum necessary to facilitate the delivery of this NSIP, that those whose land is affected would be entitled to compensation in accordance with the law, and that the Applicant has committed to mitigate the effects of uncertainty through provision of good and timely information through the Stakeholder Communications Plan which will form part of the CoCP: consequently the ExA has concluded that any infringement of ECHR rights would be

proportionate and justified in the public interest by the national need for the Proposed Development.

The Public Sector Equality Duty (PSED)

- The ExA has considered the Applicant's Public Sector Equality Statement in respect of the desirability of reducing inequalities of outcome, and the responses to it, and concludes that adequate opportunity was provided for representations to be made.
- The ExA also concludes that there is no evidence of any differentiated or disproportionate impacts on groups with protected characteristics and that the Public Sector Equality Statement will assist the SoS in discharging its duty as a public authority under the Equality Act 2010.

Overall conclusion in respect of CA and TP

- The ExA's overall recommendation is that development consent should be granted, for reasons given elsewhere in this report. It follows that, if that recommendation is accepted, the compelling case in the public interest which is required to justify CA and TP powers has been made out.
- The ExA concludes that relevant regulations and guidance relating to CA and TP have been followed by the Applicant: if the SoS concludes that development consent should be granted, then there would be a compelling case in the public interest to grant CA and TP powers to facilitate the project.

30. DRAFT DEVELOPMENT CONSENT ORDER & RELATED MATTERS

30.1. INTRODUCTION

- 30.1.1. The application draft Development Consent Order (dDCO) [APP-023] (version 1) and an Explanatory Memorandum (EM) [APP-025] were submitted by the Applicant as part of the application for development consent. The EM describes the purpose of the dDCO as originally submitted, with each of its articles and schedules.
- 30.1.2. The application dDCO was broadly based on the Model Provisions (MPs) (the now-repealed Infrastructure Planning (Model Provisions) (England and Wales) Order 2009) but departed from those clauses to draw upon drafting used in made Orders for other development under PA2008, under the Transport and Works Act 1992 and other Acts authorising development. As is required for a dDCO seeking to apply compulsory acquisition and related powers, it and all subsequent versions of it have been drafted as statutory instruments (SIs), as required under PA2008 s117(4).
- 30.1.3. This Chapter provides an overview of the changes made to the dDCO during the Examination process, between the application dDCO and a preferred dDCO submitted by the Applicant at D12 [REP12-013] (version 8) together with a revised EM [REP12-017]. It then considers changes made to the preferred dDCO in order to arrive at the recommended DCO in Appendix D to this Report. It should be noted that as D13 was the final deadline in the Examination, whilst the Applicant responded to matters bearing on the dDCO raised by Interested Parties (IPs), it did not advance a further iteration of or changes to the dDCO itself. IPs submitted their comments on the Applicants preferred dDCO at D13.
- 30.1.4. The following sections of this Chapter:
- report on the processes that the ExA used to examine the dDCO and its progress through the Examination;
 - address the relationship between this dDCO and that proposed for the other East Anglia application;
 - report on the structure of the dDCO;
 - briefly summarise changes made to the dDCO during the Examination up to D12 that were not the subject of contention (where, following consultation and dialogue as necessary, the Applicant and relevant Interested Parties (IPs) supported the changes);
 - report in more detail on those changes that were the subject of detailed and unresolved submissions;
 - address the Applicant's approach to drafting the EM and its approach to and submissions on the matter of precedent as required throughout the whole of the Chapter;
 - set out final changes that the ExA has proposed arising from or subsequent to D13, consequent on our consideration of the evidence and to address matters of drafting convention;

- address the relationship between the DCO and other consents and legal agreements;
- address the provision of a defence against nuisance in the DCO.

30.1.5. For reasons set out further in this Chapter, the ExA does propose some changes between the Applicant's preferred draft DCO (version 8 at D12 [REP12-013]) and the recommended dDCO in Appendix D (the 'proposed changes'). If the SoS decides to make the Order, the ExA recommends that that an Order in the form and containing the proposed changes set out in Appendix D should be made.

30.2. THE EXAMINATION OF THE DCO

30.2.1. The ExA's review of the application versions of the dDCO [APP-023] and the EM [APP-025] commenced before the Preliminary Meeting (PM). However, as is normal in NSIP Examinations, the Applicant replaced the application version dDCO early in the Examination to support a material change request [AS-068] and this became the foundation version of the dDCO.

30.2.2. Noting that there were a number of planning merits issues arising from objections that had the potential to require change to the dDCO submitted with the application, the ExA decided not to hold ISHs into the DCO until an initial round of hearings on planning merits matters had been held and the Applicant had had an opportunity to translate matters arising into a revised draft if needs be.

30.2.3. Matters for Examination arising from the DCO and progress on them were tracked throughout the Examination, using Issue Specific Hearings (ISHs) on the DCO, held as follows:

- **ISH6**, 29 January 2021, [EV-045] (Agenda), [EV-069] [EV-070] (Recording); and
- **ISH9**, 19 February 2021 [EV-091] (Agenda), [EV-115] [EV-116] [EV-117] (Recording);
- **ISH15**, 19 March 2021 [EV-128] (Agenda), [EV-129] [EV-130] [EV-131] [EV-132] (Recording); and
- **ISH17**, 28 May 2021 [EV-141] (Agenda), [EV-151] [EV-152] [EV-153] [EV-154] (Recording).

30.2.4. The Applicant updated the dDCO several times during the Examination, responding to issues raised by the ExA in questions, to written representations (WRs) and as a consequence of the hearing processes. At each revision, the Applicant submitted a clean copy and a copy showing tracked changes from the previous clean copy version. The 'work-in-progress' versions of the dDCO submitted by the Applicant during the Examination were as follows:

- Version 2 [AS-068] (clean copy) and [AS-069] (tracked changes from version 1) was submitted outside the deadline structure provided for in the Examination Timetable on 30 November 2020 to support an application for a material change seeking additional land (see ExA

Procedural Decision 23 of 19 November 2020 [PD-020]) and was accepted for examination by the ExA;

- Version 3 [REP3-011] (clean copy) and [REP3-012] (tracked changes from version 2) was submitted at D3 on 15 December 2020, responding broadly to matters raised in written submissions, at Open Floor Hearings (OFHs) 1-5 in October and November 2020 and at Compulsory Acquisition Hearing 1 (CAH1) and ISHs 1 and 2 in December 2020;
- Version 4 [REP5-003] (clean copy) and [REP5-004] (tracked changes from version 3) were submitted at D5 on 3 February 2021, responding broadly to matters raised at ISHs 3-6 (including ISH6 on the dDCO) and OFHs 6 and 7 held in January 2021;
- Version 5 [REP7-006] (clean copy) and [REP7-007] (tracked changes from version 4) was submitted at D7 on 4 March 2021, with changes to respond broadly to matters raised in the ExA's first written Commentary on the dDCO and orally at CAH2 and ISHs 7 – 9 (including ISH9 on the dDCO) held in February 2021. This version was supported by a revised Explanatory Memorandum version 2 [REP7-011] (clean) and [REP7-010] (tracked from version 1);
- Version 6 [REP8-003] (clean copy) and [REP8-004] (tracked changes from version 5) was submitted at D8 on 25 March 2021, with changes to respond broadly to written process on natural environment and Habitats Regulations Assessment (publication of the Report on Implications for European Sites (RIES)) and to oral process at CAH3 and ISHs 10-15 (including ISH15 on the dDCO) held in March 2021. This version was also supported by a further revised Explanatory Memorandum version 3 [REP8-007] (clean) and [REP8-008] (tracked from version 2);
- Version 7⁴⁹ [AS-109] (clean copy) and [AS-110] (tracked changes from version 5) was submitted on 22 April 2021 outside the deadline structure provided for in the Examination Timetable to support an application for a change seeking additional land (see ExA Procedural Decision 34 of 29 April 2021 [PD-039]) and was accepted for examination by the ExA; and
- Version 8 [REP12-013] (clean copy) and [REP12-014] (tracked changes from version 7) were submitted at D12 on 28 June 2021. This version was also supported by a final revised Explanatory Memorandum version 4 [REP12-017] (clean) and [REP12-018] (tracked from version 3). These formed the final submissions from the Applicant on the dDCO, responded to by Interested Parties at D13.

30.2.5. In the interests of obtaining the best possible dDCO for consideration by the SoS, the ExA has published Commentaries on the dDCO. Two such documents have been published:

- [PD-031] for consultation on 12 February 2021 (the first ExA Commentary); and

⁴⁹ Version control errors should be noted. As submitted, the cover page of Version 7 [AS-109] submitted on 22 April 2021 marks it up as 'Version 6'. However, it is not the same as Version 6 [REP8-003] submitted on 25 March 2021

- [PD-048] for consultation on 20 May 2021 (the second ExA Commentary).
- 30.2.6. The ExA Commentaries raised outstanding legal, technical and related drafting matters together with means of security for standards of delivery and impact mitigations but did not address broader planning merits considerations bearing on whether the Order should be made.
- 30.2.7. The Applicant and relevant IPs and OPs were invited to respond to the first ExA Commentary [PD-031] by D6 and to comment on responses by D7. The Applicant was also invited to submit a preferred dDCO at D7, setting out its response to matters raised in the Commentary, outstanding between the parties and in Examination up to that point.
- 30.2.8. On 6 April 2021, the SoS decided to extend the period for Examination [PD-037]. On the basis that matters, issues and questions bearing on the form and content of the dDCO continued to be examined by the ExA during the extended Examination period, and proposed amendments to the dDCO continued to be raised and discussed, a second ExA Commentary was published [PD-048] on 20 May 2021. The Applicant and relevant IPs and OPs were further invited to respond to the second ExA Commentary by D11 and to comment on responses by D12.
- 30.2.9. As is normal in most NSIP Examination processes, the Applicant was asked to submit a further preferred dDCO at D12 [REP12-013], taking the matters arising from Examination in the extended period into account.
- 30.2.10. The ExA has taken all responses to the first ExA Commentary (to the extent that they remain important and relevant, having regard to the later progress of the Examination after the extension) into account. It has taken all response to the second ExA Commentary into account.
- 30.2.11. Version 8 to the dDCO [REP12-013] (clean copy) and [REP12-014] (tracked changes) were submitted at D12 and represent the Applicant's final preferred dDCO. The ExA bases the analysis in this Chapter on Version 8, whilst taking responses to the dDCO from relevant IPs and OPs throughout Examination and concluding positions expressed at D13 into account. Unless specifically indicated otherwise, all references to provisions in the dDCO in this Chapter are based on Version 8, which also forms the basis of the recommended DCO in Appendix D.
- 30.2.12. The ExA has taken careful note of prospective changes to the policy framework throughout the Examination period. It makes clear that, to the extent that at the date of closure, no changes had been made to the principal policy sources applicable to decision-making by the SoS (designated NPS EN-2, NPS EN-3 and NPS EN-5), these provide the policy framework that has been used to frame the recommended DCO in Appendix D. Whilst the potential for future policy change in (inter alia) the Energy White Paper of December 2020 (as discussed in Chapters 3 (The Policy and Legislative Framework) and 28 (The Planning Balance)) has been taken into account as giving rise to important and relevant considerations, in circumstances where the designated NPS framework

was not changed by the time this Examination closed, this direction of policy travel has not provided a basis for the ExA to recommend changes to the DCO. However, the possible direction of such changes was raised in the Examination and the Applicant, IPs and OPs were provided with opportunities to respond to them. The ExA notes that, by the time the SoS is called upon to make a decision on this application, elements of the foreshadowed policy changes may have come to fruition.

- 30.2.13. The ExA must not act in a manner that anticipates possible future policy change or in any way fetters the discretion of the SoS on such future matters. However, given the policy changes potentially in train, the ExA considers that it should provide such technical assistance to the SoS as it reasonably can, by providing a summary breakdown of locations in the DCO where possible changes to give effect to directions in policy change might be made and the reasons for those changes. This breakdown is found in Appendix E. It should be noted that this Appendix does not form part of the recommendation in this report. Any use that the SoS might make of the content of this Appendix must be subject to a test against operational policy at the time of the decision, together with (where necessary) a consultation of the parties on matters that were not addressed in the Examination.

30.3. RELATIONSHIP BETWEEN THIS DCO AND THE DCO APPLIED FOR AS PART OF THE OTHER EAST ANGLIA APPLICATION

- 30.3.1. In common with the approach taken throughout this Report, this Chapter addresses the dDCO and reaches a recommendation on it in relation to the application for the Proposed Development. The dDCO for the other East Anglia application is almost identical to this one. The substantive points of difference are limited to the following matters.

- In the Articles, provisions relating to citation (Art 1), interpretation (Art 2), the application of the Compulsory Purchase (Vesting Declarations) Act 1981 (Art 22) and of Part 1 of the Compulsory Purchase Act 1965 (Art 23), that name and differently define the two Proposed Developments and a range of plans and documents relating to each of them in different terms.
- In the definition of the Authorised project in Schedule 1 Part 1, the parametric provisions defining number of offshore wind turbine generators (WTGs) are different (Para 1) as are the grid co-ordinates which locate the offshore works (Para 3).
- In the Requirements in Schedule 1 Part 3, parametric provisions further securing the Rochdale Envelope offshore and relating to detailed offshore design parameters define a different maximum length of export cables (R4) and a different maximum extent of scour protection (R9).
- Requirements securing construction and operational process and outcomes with reference to specific outline documents contain references to the individual Proposed Development and to documents that are different, in relation to the control of operational noise (R27), and the installation of cable ducts (R42).

- In Schedule 8 (Modification of compensation and compulsory purchase enactments for creation of new rights and imposition of new restrictions), specific references to the Proposed Development in an amendment to the Compulsory Purchase Act 1965 are made differently in each dDCO.
- In Schedule 10 (Protective Provisions), Part 5 of each dDCO provides protection for the Proposed Development against the other East Anglia application and vice versa. Part 7 (Protection for EDF Energy) (in this provision defined as EDF Energy Nuclear Generation Limited (company number 03076445), the existing generating operator of Sizewell B nuclear power station) refer to a different project-specific Activity Exclusion Zones Plan, restricting entry by vessels into a defined sea area (Para 4) and cable trenching activities (Para 5). Part 8 (Protection of NNB Generation Company (SZC) Ltd) (the developer of the proposed Sizewell C new nuclear power station) limit works within a defined sea area shown on different project-specific Order Limits Interaction - Offshore Plans.
- Schedule 13 (the Deemed Marine Licence (DML) for generation assets offshore) contains a range of different definitions, parametric provisions and conditions securing the different location, scale and extent of the WTG arrays offshore. There is a project-specific co-operation condition (Condition 25), ensuring that the developer of the Proposed Development must consult the undertaker for the other East Anglia application on the documents associated with prospective applications to the MMO for the discharge of conditions 16(1), 17(1) and 26(1), before those applications for discharge are made. Once made, the discharge applications must be accompanied by the comments (if any) of the other undertaker. Conditions 26 (Southern North Sea Special Area of Conservation Site Integrity Plan (Piling)) and 27 (-ditto – UXO clearance) both contain reference to project-specific plans.
- Schedule 14 (the DML for offshore transmission assets) contains distinguishing provisions for the same broad purposes as those in Sch 13.
- Schedule 17 (Documents to be certified) identifies that there are a number of proposed certified documents that are individual to each specific Proposed Development.
- The Explanatory Note to each dDCO is drafted to refer individually to this Proposed Development and to the other East Anglia application.

30.3.2. The ExA remains mindful that the DCO before it is for a different Proposed Development than the DCO for the other East Anglia application. Both are entitled to consideration on their own merits and must be drafted such that if the SoS were to decide to make this dDCO but not to make the dDCO for the other East Anglia application, that this dDCO would be capable of freestanding implementation. The same proposition must also be true in reverse. As a matter of good drafting practice, the two dDCOs should not be avoidably different. But equally, because they are for different projects, they must not be the same in circumstances where the characteristics of a different Proposed Development requires different provisions.

- 30.3.3. The ExA finds that the DCO as recommended in Appendix D is capable of freestanding implementation without the need to implement changes to the recommended DCO for the other East Anglia application, or to this one, regardless of whether it was to be a single Proposed Development or both Proposed Developments that were to be consented and or to proceed. No changes to this dDCO have been recommended to enable that conclusion to be reached.
- 30.3.4. The ExA has examined the question of whether the differences between the dDCO for this Proposed Development and that for other East Anglia application summarised above are justified; that they have been confined to the minimum necessary to describe and secure the differences between the projects and that there are no differences between the projects that require to be provided for in the dDCOs but that have not been provided for. The ExA is content that that is the case. No changes to this dDCO have been recommended to enable that conclusion to be reached.
- 30.3.5. The ExA has considered where there are any avoidable impediments or discrepancies of detail found in the differences between the dDCO for this Proposed Development recorded above and for the other East Anglia application. No such matters have been found and no changes have been recommended.
- 30.3.6. Specific reference must be made to the important matter of co-ordination between the two Proposed Developments, both onshore and offshore. R42 provides for the coordinated installation of onshore cable ducts between the two Proposed Developments. In the event that cable ducts comprised within the cable works for this Proposed Development are installed prior to the cable works for the other East Anglia application, the cable works for the other East Anglia application may not subsequently be installed unless the cable ducts to accommodate them are installed concurrently with those for this Proposed Development.
- 30.3.7. Similarly, in the DMLs, Schedule 13 (Generation Assets) (Condition 25) and Schedule 14 (Transmission Assets) (Condition 21) ensure co-ordination between the two proposed developers and the preparation of cross-consulted information for the MMO, prior to the submission of relevant applications to discharge DML conditions on any one Proposed Development. The aim is to ensure that the MMO does not discharge relevant conditions in relation to one project, without being aware of the position and opinions of the undertaker for the other project.
- 30.3.8. The dDCO for the other East Anglia application contains mirror provisions providing for the same outcomes in respect of this Proposed Development as are identified in the preceding two paragraphs.
- 30.3.9. The ExAs pressed the Applicant on the question of the extent to which the DCO could provide for the co-ordinated delivery of the Proposed Development in parallel or in sequence with the other East Anglia application to any greater extent than is provided for in R42 and in DML (Sch 13) Condition 25 and (Sch 14) Condition 21. The Applicant's view

was that, within the framework of current NPS policy (up to the time of Examination closure), there was no basis for any greater co-ordination. On careful consideration and having taken the views of the MMO and other relevant IPs and OPs on this point into account, the ExA concurs with this view.

- The ExA does not recommend any changes to the dDCO to bring about better co-ordination between the Proposed Development and the other East Anglia application either onshore or offshore.

30.4. THE STRUCTURE OF THE DCO

30.4.1. This section records the structure of the dDCO. The structure of the dDCO is taken from the Applicants preferred version 8 dDCO submitted at D12 [REP12-013] and is recorded below. With reference to Section 3 of this Chapter, it should be noted that there are no significant structural differences between the dDCO for this Proposed Development and the dDCO for the other East Anglia application.

30.4.2. Provisions recorded enclosed in square brackets [] in the description that follows are those that relate to the provision of and security for habitats compensation measures argued to be necessary to address matters arising from Habitats Regulations Assessment (HRA) (see Chapter 24). The Applicant proffered these on a without prejudice basis, arguing that they are not necessary, but equally that, should the ExA find and recommend that such provisions are necessary, it would wish the SoS to receive a recommended DCO that includes them. For reasons set out in Chapters 18 (Offshore Ornithology) and 24 (Habitats Regulations Assessment), the ExA has found that these provisions are necessary. It follows that this discussion of the DCO structure includes these provisions and the following discussions of provisions in detail also include these provisions. They form part of the recommended DCO in Appendix D.

Articles

PART 1

Preliminary

1. Citation and commencement
2. Interpretation

PART 2

Principal Powers

3. Development consent etc. granted by the Order
4. Power to construct and maintain authorised project
5. Benefit of the Order
6. Application and modification of legislative provisions

7. Defence to proceedings in respect of statutory nuisance

PART 3

Streets

8. Street Works
9. Application of the 1991 Act
10. Public rights of way
11. Temporary stopping up of public rights of way
12. Temporary stopping up of streets
13. Access to works
14. Agreements with street authorities
15. Highway alterations

PART 4

Supplemental Powers

16. Discharge of water
17. Authority to survey and investigate the land onshore

PART 5

Powers of Acquisition

18. Compulsory acquisition of land
19. Time limit for exercise of authority to acquire land compulsorily
20. Compulsory acquisition of rights
21. Private rights
22. Application of the Compulsory Purchase (Vesting Declarations) Act 1981
23. Application of Part 1 of the Compulsory Purchase Act 1965
24. Acquisition of subsoil or airspace only
25. Rights under or over streets
26. Temporary use of land for carrying out the authorised project
27. Temporary use of land for maintaining the authorised project
28. Statutory undertakers
29. Recovery of costs of new connections

PART 6

Operations

- 30. Operation of generating station
- 31. Deemed marine licences under the 2009 Act

PART 7

Miscellaneous and General

- 32. Application of landlord and tenant law
- 33. Operational land for purposes of the 1990 Act
- 34. Felling or lopping of trees and removal of hedgerows
- 35. Trees subject to tree preservation orders
- 36. Certification of plans etc.
- 37. Arbitration
- 38. Requirements, appeals etc.
- 39. Abatement of works abandoned or decayed
- 40. Saving provisions for Trinity House
- 41. Crown rights
- 42. Protective provisions
- 43. Funding

- 30.4.3. In Chapter 24 (HRA) the ExA has made findings that there are AEOI and broadly that the inclusion of draft Sch 18 in the dDCO is justified. On that basis, the following additional Article (shown in brackets) is included in the rDCO in Appendix D to provide for the inclusion of draft Sch 18.

[44.] [Offshore ornithology compensation provisions]

Schedules

SCHEDULE 1: Authorised Project

PART 1: Authorised Development

PART 2: Ancillary Works

PART 3: Requirements

SCHEDULE 2: Streets subject to Street Works

SCHEDULE 3: Public Rights of Way to be Temporarily Stopped Up

SCHEDULE 4: Footpaths to be stopped up

SCHEDULE 5: Streets to be temporarily stopped up

SCHEDULE 6: Access to works

SCHEDULE 7: Land in which only new rights etc. may be acquired

SCHEDULE 8: Modification of compensation and compulsory purchase enactments for creation of new rights and imposition of new restrictions

SCHEDULE 9: Land of which temporary possession may be taken

SCHEDULE 10: Protective Provisions

PART 1: Protection for electricity, gas, water and sewerage undertakers

PART 2: Protection for operators of electronic communications code networks

PART 3: Protection for Anglian Water Services Limited

PART 4: Protection for National Grid as electricity undertaker

PART 5: Protection for East Anglia TWO Limited

PART 6: Protection for East Anglia ONE Offshore Wind Farm and East Anglia THREE Offshore Wind Farm

PART 7: Protection for EDF Energy

PART 8: Protection of NNB Generation Company (SZC) Limited

SCHEDULE 11: Hedgerows

PART 1: Removal of important hedgerows

PART 2: Important hedgerows that will be crossed using a reduced working width

SCHEDULE 12: Trees subject to tree preservation orders

SCHEDULE 13: Deemed licence under the 2009 Act – generation assets

PART 1: Licensed marine activities

PART 2: Conditions

SCHEDULE 14: Deemed licence under the 2009 Act – offshore transmission assets

PART 1: Licensed marine activities

PART 2: Conditions

SCHEDULE 15: Arbitration Rules

SCHEDULE 16: Procedure for discharge of requirements

SCHEDULE 17: Documents to be certified

PART 1: Documents forming the environmental statement to be certified

PART 2: Other documents to be certified

- 30.4.4. In addition to the structure of the dDCO as summarised above, the Applicant's preferred version 8 dDCO submitted at D12 [REP12-013] contains bracketed provisions in Sch 18, securing offshore ornithology compensation measures. The Applicant's without prejudice position on these provisions is that they are not required, because it considers that there is no AEOI in relation to HRA matters. However, the Applicant did advance a 'without prejudice' derogation case to address circumstances where the SoS found that there were AEOI and so HRA compensation measures are required to be secured.
- 30.4.5. In Chapter 24 (HRA) the ExA has made findings that there are AEOI and broadly that the inclusion of draft Sch 18 in the dDCO is justified. On that basis, the following addition to the structure of the Order (shown in brackets) is included in the rDCO in Appendix D.

[SCHEDULE 18]: [Offshore Ornithology Compensation Measures]

[PART 1]: [Kittiwake Compensation Measures]

[PART 2]: [Gannet Compensation Measures]

[PART 3]: [Guillemot Compensation Measures]

[PART 4]: [Razorbill Compensation Measures]

[PART 5]: [Lesser black-backed gull Compensation Measures]

[PART 6]: [Red-throated diver Compensation Measures]

- 30.4.6. The ExA is content that the structure of the DCO is well precededented, justified with reference to the Explanatory Memorandum version 4 [REP12-017] and so is fit for purpose. Structural changes discussed above and included in Appendix D are limited and consequential in nature, responding to the need to add new provisions (Schedule 18) to the DCO. Falling as they do at the end of the DCO, the addition of these provisions does not require the re-numbering of any provisions. Giving effect to those changes:

- If the SoS were minded to make the DCO taking account of proposed changes, the structure is proposed to be amended to include Sch 18 containing offshore ornithology compensation measures as shown in Appendix D.

30.5. DRAFTING ISSUES

- 30.5.1. The following issues of drafting principle emerged between the Applicant, IPs and OPs and/ or were raised by the ExA during the Examination:
- Requests for a 'split decision' and 'adaptation provisions';
 - Deemed consent provisions;
 - Flood provisions – specifically the approval of relevant plans and the discharge of relevant requirements;
 - Acoustic performance;
 - The approach to arbitration in the dDCO;

- Managing permitted development in the onshore substations;
- Certified documents and Sch 17;
- HRA offshore ornithology compensation measures and Sch 18; and
- SSSI mitigation measures and ecosystem services for Sandlings crossing.

30.5.2. A wide range of other drafting points were raised in submissions by IPs but, having considered these, in circumstances where the ExA has found that development consent should be granted and (see below from paragraph 30.5.3) that there is no justification for cutting away elements of the DCO applicable to onshore development, the ExA has not found it necessary to pursue these additional changes.

A 'Split Decision' and 'Adaptation Provisions'

30.5.3. A number of IPs made submissions at multiple stages in the Examinations to the extent that a 'split decision' should be recommended. That term is employed by the ExA to relate to circumstances where the SoS decided to grant consent for the development of an offshore generating station and certain offshore cabling works as associated development but did not decide to grant consent for the landfall, onshore cable alignments, transmission system connection location and associated transmission system changes.

30.5.4. The rationales advanced in arguments for a 'split decision' in summary fell into two broad types and/ or a combination of these two types:

- arguments that the adverse effects of the Proposed Development onshore were so substantial that they outweighed the benefits of the onshore development (the achievement of a specific transmission system connection for the export cables from the offshore generating station); and/ or
- arguments that national policy in relation to the siting, design, delivery and coordination of transmission system connections for offshore wind farms was undergoing substantial change and that either a decision to support the onshore transmission system connection elements of the Proposed Development was premature pending the finalisation of policy change, or that emerging policy change was important, relevant and of sufficient weight to indicate against any such decision.

The ExA does not rehearse these arguments in detail here, because in the main they emerged as contributory points to submissions on planning merits matters addressed elsewhere in this Report.

30.5.5. The planning balance argument (that onshore development detriments outweigh benefits) have been addressed in Chapter 28 (Conclusions on the Case for Development Consent). There, the ExA has concluded that the renewable energy generation benefits of the Proposed Development do outweigh the nevertheless substantial harms occasioned by the onshore transmission connection development.

- 30.5.6. The policy and prematurity arguments were subject to change throughout the Examination and Reporting periods and remain amenable to change. To this extent, the ExA reports on the position as at the closure of the Reporting period but notes that this position may also change.
- 30.5.7. In its February 2021 dDCO Commentary [PD-031] the ExAs raised the potential relationship between the non-array elements of the Proposed Development and policy change in relation to transmission system connections, in response to matters raised in the Energy White Paper potential change emerging from the BEIS Offshore Transmission Networks Review. It raised the possible need to consider the preparation (without prejudice if needs be) of what it referred to as 'Adaptation Provisions'. The purpose of these would have been, should policy have shifted in favour of needing a different transmission connection solution to that proposed in the application, to enable relevant onshore elements of the dDCO to fall away, without affecting the principle of development consent for the offshore arrays.
- 30.5.8. This issue and approaches to it assumed significance in the Examination from the outset. A number of IPs contended at the Preliminary Meetings that commencement of the Examination was premature, in circumstances where the policy framework for the onshore transmission connection development was considered likely to change. In Examination, a number of IPs made strong submissions that whilst they supported the principle of the proposed generating station use and development offshore, they considered that the impacts from the onshore transmission connection infrastructure could not be sufficiently mitigated and that this element of the application should be refused (a 'split decision'), necessitating the removal of relevant provisions from the dDCO. There were also submissions which (in summary) took the view that even if that was not the case at the immediate point in time, that the direction of travel of policy change was such that it was likely that the onshore transmission connection elements of the Proposed Developments would need to be substantially changed from those proposed. Notable proponents of the 'split decision' approach included the local representative groups SASES, SEAS and the Rt Hon Dr Therese Coffey MP for Suffolk Coastal.
- 30.5.9. The Applicants responded to this point making clear that it did not consider that changes to the dDCO to in response to the adverse impacts arising from the onshore transmission connection works was justified under current policy settings. Nor did it consider that adaptation to address issues and risks around possible policy changes were warranted. It was entitled to a decision on its application within the framework provided by operational policy at the date of the decision and did not wish to engage in any form of speculation about what form the dDCO might take if policy changed sufficiently to indicate against policy support for the onshore transmission development in the form applied for.
- 30.5.10. As the ExA noted in its May 2021 dDCO Commentary [PD-048] (at item 01), this point was extensively ventilated in the Examinations. The Applicants and Interested Parties (IPs) were aware of it and were

provided with a reasonable opportunity to put their positions to the ExA throughout the Examination. The ExA noted prior to closure that it remained possible that further detail of relevant changes in policy direction might be signalled before the closure of the Examinations that bore on the question of whether and in what form the onshore transmission connection development might proceed, and how that might be managed in the statutory drafting of the dDCO. Should relevant changes to policy have occurred, the ExAs undertook to place that material before the parties and seek comments.

30.5.11. However, as matters eventuated, no relevant policy changes that would have the effect of changing the ExAs or the SoS' balance of considerations about the dDCO provisions authorising onshore transmission development emerged before the closure of the Examinations.

30.5.12. Following closure of the Examination the following should be noted.

- On 6 September 2021, the Department for Business, Energy and Industrial Strategy issued revised draft NPSs in the NPS Energy Suite, accompanied by a consultation, intended to run until 29 November 2021. However, page 11 of the consultation document summarised the transitional position prior to the consideration of responses and any decision to amend and/ or designate these drafts as follows:

While the review is undertaken, the current suite of NPS [...] remain relevant government policy and EN-1 to 5 have effect for the purposes of the 2008 Act. They continue to provide a proper basis on which applications can be prepared, the Planning Inspectorate can examine, and the Secretary of State can make decisions on, applications for development consent.

- At the point at which this report was submitted, no further outputs from the BEIS Offshore Transmission Networks Review which might bear on arguments for adaptation provisions or for a 'split decision' had been published.

30.5.13. Taking this position into account, The ExA observes that it has considered the application before it and the content and drafting of the dDCO in the light of designated NPS policy (and in line with the transitional guidance in the 6 September NPS Energy Suite consultation paper). Within this framework, it has made findings elsewhere in this Report, to the extent that the proposed onshore transmission connection development, whilst substantially and adversely impactful, is compliant with policy. In these circumstances the ExA does not consider that it is either necessary or appropriate to provide any further detailed consideration to means by which the provisions in the dDCO authorising and empowering the undertaker to develop a transmission connection onshore could be removed (an adaptation provision) or for any other mechanism supportive of a 'split decision'.

30.5.14. In reaching this position, the ExA notes that there may be further policy developments during the decision period, and/ or the SoS may not agree

with its findings on broadly onshore effects and may wish to consider a 'split decision'. Should that be the case, it should be noted that a review of the extent to which provisions in the dDCO relate to onshore development indicates that such an outcome would not constitute a minor or immaterial body of work. It would require change to a substantial majority of the current dDCO provisions and would result (in the ExA's consideration) in a consent for development that would be materially different from that applied for.

Deemed Consent Provisions

- 30.5.15. In its February 2021 dDCO Commentary [PD-031] the ExAs sought views from IPs about whether deemed consent provisions for the discharge of requirements were appropriate. A balance always needs to be struck in such matters between the national significance and scale of NSIP development, the need to avoid unforeseen delay (and costs) arising from discharge decisions in major construction programmes and the reasonable capability of a public authority to provide meaningful advice or decisions in the public interest in an abbreviated timescale.
- 30.5.16. The ExA notes that concerns raised by the MMO and SCC in Examination but having regard to changes advanced by the Applicant is content that the provisions in the D12 dDCO address this point.

Flood Provisions

- 30.5.17. Chapter 6 of this Report addresses an issue that arose between ESC and SCC in relation to the discharge of requirements with a bearing on flooding and drainage. In summary, SCC as lead local flood authority took the view that it should be the discharging authority in respect of provisions relevant to flooding and drainage (R22 in relation to relevant elements of the CoCP and R41 in relation to the ODMP). ESC highlighted its role as LPA and took the view that it should discharge these requirements, whilst consulting with SCC. The Applicant had drafted the dDCO on the latter assumption.
- 30.5.18. It is fair to observe that the discharge of requirements relating to design and development is normally a matter for the LPA. This is because planning decision-making is an integrating process during which account may need to be taken of multiple competing considerations, with a final decision needing to be taken on the balance of these. However, there can be circumstances in which requirements are discharged instead by a relevant special purpose or expert public authority. This occurs where the benefit to be obtained from integrating decision-making is outweighed by the technically specialist nature of the decision subject matter, and/ or by resource considerations (including the availability of technically qualified and expert staff, specialist systems and a wider evidence base). Previous examples in made dDCOs include the discharge of relevant requirements by the Environment Agency, where the subject matter relates to its statutory duties, expertise and evidence base.

- 30.5.19. During the Examination and particularly at ISH16 [EV-140][EV-142-5] into the substations' sites, where flood and drainage matters were explored, The ExA noted the many strong and expert contributions by SCC as lead local flood authority, with a demonstrated understanding of and expertise in making judgments about the effective management of the flood and drainage issues potentially arising in the environs of Friston. The evidence provided by SCC was preferred on a number of points to that offered by the Applicant, in circumstances where ESC had limited involvement in technical reasoning. The support of other community representative IPs for the proposition that SCC should be the discharging authority on these matters has also been taken into account.
- 30.5.20. In these circumstances, the ExA considers that the technical and specialist elements of the CoCP relating to flooding and drainage are appropriate to be subject to formal approval (discharge) by SCC as the lead local flood authority. It has recommended changes to R22 to this effect, noting that these relate to the approval of the flooding and drainage elements of the CoCP alone: the remaining CoCP components are matters within the normal purview of the LPA, rightly remain for discharge by ESC and are unaffected by the ExA's recommended amendment. The same broad argument holds good for R41 and the ODMP, but here the ExA considers that this requirement should be discharged in totality by SCC, as its entire subject matter relates to operational drainage and any assessment of the plan or advice or enforcement under it will need to draw on SCC expertise.

Acoustic Performance

- 30.5.21. Chapter 6 of this Report addresses submissions and evidence between (largely) the Applicant and SASES about the appropriate means to secure the acoustic performance of substations site at Friston during the construction process and in operation. On balance the ExA has accepted the drafting proposed by the Applicants in the D12 dDCO and, on the basis that no changes are recommended there, none are proposed here.

Managing Permitted Development

- 30.5.22. Chapters 6, 7 and 8 of this Report (Volume 1), all make findings that, in effect, the mitigation of construction and operational drainage, mitigation of landscape, and historic environment harms require there to be considerable certainty that the appropriate drainage and landscape measures provided for in requirements will be provided and retained. In circumstances where Work No. 30 (the undertaker's substation) and Work No 41 (the transmission system operator's substation) are deemed to be operational land, they will enjoy extensive permitted development rights under the General Permitted Development Order 2015 Sch 2 Part 15, Class B: these are rights provided to facilitate the operations of electricity undertakings.
- 30.5.23. In its May 2021 dDCO Commentary [PD-048] the ExA responded to concerns that the exercise of these rights might harm drainage and landscape mitigations provided for in the DCO and that it has deemed to

be necessary to make the proposed onshore substations development acceptable in policy terms. It proposed that the full Class B permitted development rights might be withdrawn. Both the Applicant and NGET strenuously objected to that proposition, on the basis that the class of rights are broadly required to enable a substation operator to manage and adjust the infrastructure for which they are responsible.

- 30.5.24. The ExA on reflection agrees with the Applicant and NGET, but observes that the same objectives can be achieved by making relevant elements of the permitted development under Class B conditional as follows:
- (d) the extension or alteration of buildings on operational land;
 - (e) the erection on operational land of the undertaking or a building solely for the protection of plant or machinery; and
 - (f) any other development carried out in, on, over or under the operational land of the undertaking.
- 30.5.25. The condition would be that prior to the commencement of any such permitted development, the undertaker must submit a drainage management and/ or a landscape scheme for approval by the lead local flood authority and / or the relevant planning authority, as appropriate. The purpose of this prior approval is to assure those authorities and the public that permitted development will not remove or damage drainage or landscape measures that mitigate otherwise substantial harms due to the Proposed Development.
- 30.5.26. With these conditions in place, in the ExA's view, it would not be necessary to withdraw any permitted development rights under Class B. However, notwithstanding that this is a substantial movement towards the Applicant's position, it has not been considered by the Applicant or IPs in the Examination and the SoS may wish to consult upon it for that reason.

Arbitration Provisions

- 30.5.27. A matter specific to the DCO alone was raised by the ExA, noting that the Applicants propose to include very detailed arbitration provisions at Art 37 and Sch 15.
- 30.5.28. A number of recent ExA reports have recommended against overly detailed arbitration provisions, viewing the scope of these as being too broad (for example by limiting or excluding the decision-making powers of public authorities or the SoS), or observing that a specific case for detailed arbitration provisions arising from harm and damage in actual OWF construction programmes or on operational OWFs had not been evidenced. A summary of the position in respect of these is found in the Thanet Extension Offshore Wind Farm Recommendation Report from paragraph 11.4.4. This ExA has had regard to the reasoning set out there.
- 30.5.29. Since that report was published, the matters have also been considered by the ExA for the Hornsea Three OWF and the made Order for that project contains its own Art 37 and Sch 13 (Arbitration Rules) which take

account of the desire from the OWF sector for greater specification and certainty around arbitration processes, whilst also recognising that such processes:

- should address a specific need or harm that cannot be addressed without such provisions;
- should not be unduly complex or burdensome in themselves;
- should not be disproportionate or over-broad (including by enabling the judgments or powers of relevant public authorities or the SoS to be set aside by an arbitrator), having regard to the limited evidence of harm, damage and of the need for recourse to arbitration; and
- should preserve the general principles of planning and environmental law that documents and events relating to the equivalent of first instance decisions and factual/merits appeals should be transparent, available and open to the public and that costs normally lie where they fall, rather than following the event.

30.5.30. The ExA put these matters to the Applicant in its Second dDCO Commentary [PD-048]. The Applicant's response was to agree changes, including an acceptance of the principle that documents and events would normally be public (Sch 15 para 7).

30.5.31. The Applicant's position at D12 is did however seek to sustain a system where the SoS' powers could be lost to the International Court of Arbitration of the International Chamber of Commerce in certain circumstances (Art 37), where costs broadly run with the event (Sch 15 paragraph 6) and where a detailed additional 'emergency' arbitration system is also provided (Sch 15 paragraphs 4 and 9).

30.5.32. Having regard to the made Hornsea Three Order at Art 37, there is no provision for the SoS' powers to appoint an arbitrator to be lost to the International Court of Arbitration of the International Chamber of Commerce (the International Court) (or any analogous / non-governmental body) if the SoS fails to make the appointment within a specific timescale. The ExA understands the provisions of the D12 dDCO at Art 37 to be unprecedented, in that it provides for the loss of the SoS' appointing power to the International Court if an appointment is not made within 14 days of a referral. The ExA notes the virtue of expedition in appointing an arbitrator, but also notes that in circumstances where the SoS is unable to meet a 14-day deadline, this will be for good reasons. 14 days is also an unreasonably short period to confine the SoS to make what might be a complex appointment, where a measure of pre-appointment diligence is required. The ExA also considers that it is contrary to the public interest for the SoS to lose the power of appointment and an element of her/ his ability to be the ring master of the NSIP decision-making process. The SoS is accountable to the UK Parliament, whereas the International Court is not an elected or accountable body. The public interest on balance appears to rest with final accountability for the management of the NSIP system to rest with Ministers in Parliament.

30.5.33. For this reason, the ExA recommends that Art 37(3) of the R12 dDCO should be deleted, returning the drafting of the Order to direct

equivalence on this point to the Order as made for Hornsea Three. Whilst the specific deletion proposed was not directly ventilated with the Applicant in Examination, the Applicant did have regard to the Hornsea Three made Order and to challenge from the ExA that the dDCO arbitration provisions should not be unduly complex, should not remove the powers of the SoS without good reason and should broadly accord with precedented approaches and good practice. On that basis, the ExA considers that it is not necessary for the SoS to consult the Applicant on this change before the decision.

- 30.5.34. Having regard to the made Hornsea Three Order, where there is no separate provision for emergency arbitration, the ExA notes this Applicant's reasonable case that there may be circumstances where expedition is justified. If a statutory timetable for arbitration is acceptable (and the Hornsea made Order suggests that it is), then there is an argument that an expedition provision should also be included to ensure that the timetable does not in itself become a source of avoidable delay in emergency circumstances (such as for example, unexpected damage to or failure of a cable or a transformer necessitating highly urgent works).
- 30.5.35. That being said, the ExA does not accept that the potential need for emergency arbitration warrants the inclusion of an entire page of additional, detailed and in large respects duplicating procedural provision in Sch 15 of the DCO. For this reason, the ExA recommends a simple amendment to paragraph 4 (Procedure) of Sch 15 to empower the arbitrator to vary the procedural timetable for arbitration on application and for written reasons. If this amendment is added, the entirety of Sch 15 paragraph 9 can be deleted, removing a substantial layer of complexity and duplication from the DCO. The ExA recommends accordingly. It should be noted that whilst the principle of potential simplification of these provisions was ventilated with the Applicant in Examination, the specific drafting of this amendment was not and the SoS may wish to seek the Applicants observations on the proposal to delete paragraph 9 in favour of a simple power of procedural variation in paragraph 4 before making the decision.
- 30.5.36. The ExA notes that the D12 dDCO also includes clarifying provisions on conservatory and interim measures in Sch 15 paragraph 8. These are not precedented in the Hornsea Three Order, but the ExA accepts that they usefully add clarity about the ability of an arbitration to provide what amounts to interim and declaratory relief, and also clarifies the respective roles of an arbitrator and the court, should interim or declaratory relief be sought from a court. This appears to be a useful and justified if novel provision that the ExA recommends is retained.
- 30.5.37. Having regard to the made Hornsea Three Order, the ExA finds that the Applicant in this case has not provided evidence to support the retention of a position in respect of costs following the event that is otherwise alien to much of the canon of English planning and environmental law as applicable to first instance decisions and appeals. The ExA considers that it is not in the public interest that any potential party to an arbitration

when acting in good faith and not behaving unreasonably, should be inhibited from participation due to the fear of an award of others' potentially substantial costs. In reaching this position, the ExA observes that there may be very substantial inequality of bargaining power, inequality of means and very different benefit from proceedings as between an individual resident (say) on the one hand and the undertaker or a public authority on the other. This in general is why the principle on costs in planning and environmental law applies in the way that it does.

30.5.38. The ExA accepts that there may be circumstances where an arbitrator may be justified in awarding the costs of one party against another party (including in the normal planning circumstances of there having been unreasonable behaviour), but this should not be the norm. The ExA notes that the made Hornsea Three Order addresses this point and so it recommends an amendment to the drafting of Sch 15 Paragraph 6 (Costs) to incorporate drafting on costs set out in that made Order at Sch 13 paragraph 6 (2) and (3). The ExA observes that the Applicant was alive during the Examination to the ExA's concern about the provision on costs and the need in principle to let costs lie where they fall. Whilst the specific drafting employed was not proposed, the Applicant did have regard to the Hornsea Three made Order and so the ExA considers that it is not necessary for the SoS to consult the Applicant on this change before the decision.

30.5.39. Finally and again having regard to the made Hornsea Three Order, the ExA has considered the novel provisions in relation to confidentiality in Sch 15 paragraph 7 of the D12 dDCO. The ExA discussed the desirability of arbitration proceedings and documents being public with the Applicant and the Applicant made changes to the drafting of paragraph 7 to address these matters. However, it sought to retain the potential for matters to be identified as commercially in-confidence and dealt with as such, and a general principle that arbitrations between parties on protective provisions (Sch 10) will normally be confidential. Having regard to the established basis for confidentiality for commercial matters and to the fact that any arbitration within the framework of a protective provision is in essence a commercial dispute, the ExA is content that these novel provisions are reasonable and should not be removed.

Certified Documents

30.5.40. The D12 Applicant's preferred dDCO [REP12-013] was accompanied by an audit of the documents sought to be included in Sch 17 as documents to be certified [REP12-064]. The latest version of thirteen documents that were intended to be certified and listed in Sch 17 Part 2 did not include a Planning Inspectorate reference in the D12 dDCO, instead being referred to in Sch 17 Part 2 as 'REP12-XXX' because they were submitted simultaneously with the D12 dDCO. The ExA recommends that all of these references in Sch 17 should be amended to reflect the actual references to those documents as submitted at D12.

30.5.41. In addition, the latest versions of the following documents intended for certification were not submitted until D13:

- Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Update (Sch 17 Part 1) [REP13-019]
- Outline Code of Construction Practice (Sch 17 Part 2) [REP13-005];
- Outline Landscape and Ecological Management Strategy (Sch 17 Part 2) [REP13-007]; and
- Outline Operational Drainage Management Plan (Sch 17 Part 2) [REP13-020].

30.5.42. The ExA recommends that the D13 documents that were intended to be certified should be included as changes to Sch 17 Part 2. However, before the SoS decides to make the Order on that basis, it should be noted that where a document is submitted at D13 in a form that is new or materially changed from earlier versions, relevant IPs did not have an opportunity to submit their views before the Examination closed. The SoS may wish to consult as follows:

- Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Update, consultation with NE.
- Outline Code of Construction Practice, consultation with ESC and in respect of matters relevant to water quality and flood measures, SCC as lead local flood authority;
- Outline Landscape and Ecological Management Strategy, consultation with NE, ESC and SCC; and
- Outline Operational Drainage Management Plan, consultation with ESC and SCC as lead local flood authority.

30.5.43. The documents are individually listed in Section 30.6 below as changes that the ExA recommends to be made to the dDCO.

Offshore Ornithology Compensation Measures

30.5.44. As discussed in Chapter 24 and at Section 4 of this Chapter (in relation to structure changes to the dDCO), the Applicant proffered without prejudice content in Sch 18 of the dDCO submitted at D12 [REP12-013] designed to secure compensation measures to address circumstances where HRA AEoIs were found. Further to the discussion in Chapter 24, the ExA finds the changes to be necessary and it recommends inclusion of the content of the without prejudice changes (bracketed in the dDCO) in the rDCO.

UXO Clearance Measures

30.5.45. There was a debate between the MMO and the Applicant about the appropriate means to manage UXO (unexploded ordinance) in the DMLs, the substance of which is addressed in Chapter 19 of the Report at paragraphs 19.5.1 – 11. Whilst the MMO had sought a separate approvals process for UXO works, the Applicants considered that the DMLs in the DCO should provide a unified consent mechanism. The drafted Conditions 16 and 27 of draft DML1 (Sch 13) and Conditions 12 and 13 of draft DML2 (Sch 14) to provide for this. For reasons set out in Chapter 19, the ExA is persuaded of the Applicant's approach and the virtue of having these approvals provided for alongside development

consent. For this reason, the ExA has not recommended against the inclusion of these provisions by the Applicant.

SSSI Mitigation for Sandlings Crossing

- 30.5.46. In its second commentary on the dDCO [PD-048] the ExA observed that there had been an ongoing debate between NE and the Applicant about the extent to which it was necessary to secure the delivery and function of Work No. 12 A (habitat replacement works) on the face of the DCO. NE had argued that this was required because, amongst other matters, this work would include mitigation, without which there could be an AEoI on the Sandlings SPA. The ExA proposed a draft form of words for such a provision, but also sought views on the necessity for it.
- 30.5.47. Having reviewed that position at [REP11-124], NE confirmed that the suggested provision was not required to avoid an AEoI. Rather it would secure SSSI mitigation. On that basis however, the Applicant did not view the provision as necessary.
- 30.5.48. Having considered this matter, the ExA concludes that SSSI mitigation is provided for in the OLEMS [REP13-007], and that a further formal security on the face of the DCO for a matter that did not relate to HRA was not warranted. The ExA has not recommended the inclusion of a provision in the rDCO.

Control of development during operational phase

- 30.5.49. As discussed in Chapter 6, 7 and 8 and at Section 4 of this Chapter (in relation to structure changes to the dDCO), the ExA is recommending a change to the DCO to secure the application of conditions to the exercise of permitted development rights in the operational substations (Work No. 30 and Work No. 41) in the authorised development.
- 30.5.50. During Examination the ExA observed that a combination of factors indicated that the extent of the Applicant proffered without prejudice content in Sch 18 of the dDCO submitted at D12 [REP12-013] designed to secure compensation measures to address circumstances where HRA AEoI were found. Further to the discussion in Chapter 24, the ExA finds the changes to be necessary and it recommends inclusion of the content of the without prejudice changes (bracketed in the dDCO) in the rDCO.

30.6. CHANGES DURING AND AFTER EXAMINATION

- 30.6.1. This section of the report addresses all outstanding matters in respect of which there was discussion between the Applicant, relevant IPs and OPs and the ExA at ISHs 6, 9, 15 and/or 17, in the ExA Commentaries and in written submissions about potential changes to the preferred Version 8 dDCO [REP12-013], in a tabulated format. **Table 30.1** sets out the provisions in respect of which the ExA has recommended changes to the preferred dDCO (Version 8) in the rDCO (Appendix D), for reasons.

Table 30.1: DCO Provisions Recommended to be Changed

Provision	Examination Issue	Recommendations
Art 2	Interpretation Brackets enclosing definition of “offshore ornithology without prejudice compensation measures”.	Remove enclosing brackets from the Art 2 definition of “offshore ornithology without prejudice compensation measures”. Reason: see Sch 18 amendments below.
Art 2	Interpretation In order to support changes to R22 and R41, a definition of the relevant lead local flood authority needs to be added to the DCO.	Amend Art 2 to provide that “relevant lead local flood authority” means the lead local flood authority for the area in which the land to which the relevant provision of this Order applies is situated. Reason: to enable SCC as lead local flood authority to discharge elements of R22 relevant to flood and drainage matters and to discharge R41, it is necessary to define and refer to the lead local flood authority in the DCO.
Art 2	Interpretation Typographical error.	Amend Art 2 definitions of “substations design principles statement” and “suction caisson” by inserting a semi-colon and a new line to reinstate these as independent definitions, as originally intended.

Provision	Examination Issue	Recommendations
		Reason: to correct a typographical error.
Art 37	Arbitration The dDCO contains an unprecedented provision that if the SoS fails to appoint an arbitrator in a defined time period, the referring party may refer the matter to the International Court of Arbitration of the International Chamber of Commerce.	Amend Art 37(3) to delete the power to refer an arbitration to the International Court of Arbitration of the International Chamber of Commerce. Reason: to reflect recent ExA recommendations and SoS decisions that have sought to retain simple arbitration provisions and to avoid circumstances where the SoS would be made subject to or lose the power to appoint an arbitrator, as it is in the public interest that final decision making under the DCO should rest with the SoS. No previous made Order of which the ExA is aware has included this provision and the Applicant did not provide any specific evidence of the harm or damage that would be occasioned if such a provision were to be included in the Order. On that basis the ExA views the R12 dDCO drafting of Art 37(3) as unprecedented and disproportionate to the need to provide an effective arbitration system, subject to oversight by the SoS.

Provision	Examination Issue	Recommendations
Art 41	Crown Rights Any Crown Rights article in a DCO should be in a form of words that the relevant Crown authority has considered and finds acceptable. At Deadline 13 tCE provided views on the proposed D12 dDCO seeking minor technical amendments to drafting [REP13-041].	Amend Art 41 to take the form advised by tCE at D13 (adding reference to any 'lessee' in addition to licensee in Art 41(1) and correcting a minor typographical error ('The' instead of 'the') in references to tCE in Art 41(1) (a) and (b). Reason: to bring the drafting of the Crown Rights provision into accordance with the advice of tCE on drafting. The ExA is content that the amendments sought do not materially change the effect of the dDCO or the rights or powers of the undertaker under it and on that basis, the SoS may make this change without any further consultation.
R22	Code of Construction Practice (CoCP) A difference arose between the lead local flood authority (SCC) and the LPA (ESC) over the identity of the body most appropriate to discharge this requirement. In the D12 dDCO, ESC was the discharging body (approving all elements of the CoCP).	Amend R22 to provide that the Surface Water and Drainage Management Plan (SWDMP) and the Flood Management Plan (parts of the CoCP) are to be discharged (approval of these parts of the CoCP) by the lead local flood authority (SCC), in consultation with the LPA (ESC). Reason: in recognition of the substantial technical capacity of and evidence base around flood modelling and management held by SCC, requirements can be (and in this case appear best to be) discharged by a relevant specialist

Provision	Examination Issue	Recommendations
		body, in preference to discharge by the LPA which does not directly command the relevant expertise. The ExA noted the substantial capacity of SCC in understanding and advising on operational flood effects throughout the Examination and considers that the matters requiring discharge under this requirement are best addressed by an authority with demonstrated expertise and capacity in this subject matter. ESC must however be a consultee to ensure that discharge balances flood considerations with other important and relevant considerations around (largely) landscapes, heritage and design that require to be considered in discharging this requirement.
R41	Operational Drainage Manage Plan (ODMP) A difference arose between the lead local flood authority (SCC) and the LPA (ESC) over the identity of the body most appropriate to discharge this requirement. In the D12 dDCO, ESC was the discharging body (approving the ODMP), in consultation with SCC and EA. Submissions by SCC drew	Amend R41 to provide for discharge (approval of the ODMP) by the lead local flood authority (SCC), in consultation with the LPA (ESC). Reason: in recognition of the substantial technical capacity of and evidence base around flood modelling and management held by SCC, requirements can be (and in this case appear best to be) discharged by a relevant specialist

Provision	Examination Issue	Recommendations
	attention to the desirability of the ODMP being approved by a body with carriage of the relevant evidence and technical expertise in the subject matter. ESC sought to maintain its discharging role, less because of any specific command of the evidence or expertise, but more because as LPA it considered that it was the most appropriate body to balance flood with other matters relevant to design and delivery.	body, in preference to discharge by the LPA which does not directly command the relevant expertise. The ExA again noted the substantial capacity of SCC in understanding and advising on operational flood effects throughout the Examination and considers that the matters requiring discharge under this requirement are best addressed by an authority with demonstrated expertise and capacity in this subject matter. ESC must however be a consultee to ensure that discharge balances flood considerations with other important and relevant considerations around (largely) landscapes, heritage and design that require to be considered in discharging this requirement.
R44	Managing permitted development The ExAs consider that it is necessary to make elements of GPDO Sch 2 Part 15 Class B permitted development rights for electricity undertakings conditional.	Insert new R44 to make GPDO Sch 2 Part 15 Class B permitted development rights for electricity undertakings conditional for elements (d) (e) and (f) of Class B (buildings and structures that might otherwise harm the authorised drainage or landscape schemes. Reason: to ensure that substations development over and above the authorised

Provision	Examination Issue	Recommendations
		development does not remove or damage drainage or landscape mitigation measures that, for reasons set out in Chapters 6, 7 and 8 of this report, the ExA considers to be necessary to be maintained.
Sch 15 Para 4	Arbitration Rules Procedure Detailed procedural rules and timescales are provided for arbitrations, but by including a separate process for emergency arbitration, it is acknowledged that these might be insufficiently flexible.	Add sub paragraph 9 to Sch 15 Para 4, empowering an arbitrator to vary certain procedural requirements and timescales for reasons, where a reasoned application is made for an emergency or expedited arbitration, taking procedural submissions from other parties into account before doing so. Reason: the Applicants have made a sound case for the inclusion of an expedited arbitration procedure to address emergency circumstances. However, this can be delivered in a far less complex manner than proposed in the D12 dDCO by amending the general procedure rules to empower a general arbitrator to vary relevant rules and timescales. The ExA substantially prefers and recommends this approach to the alternative of making separate, parallel and duplicating provision for an emergency arbitration process with different rules. (See

Provision	Examination Issue	Recommendations
		para 9 below where the emergency arbitration rules are proposed to be deleted). This approach is also recommended to ensure precedented drafting and align the DCO with the made Hornsea Three DCO on this point.
Sch 15 Para 6	Costs Provisions for costs in arbitration to follow the event are included in dDCO at Sch 15 para 6.	Conform the approach to costs in an arbitration event to the approach included in the Hornsea Three made Order, where costs lie where they fall other than in instances of unreasonable behaviour. Reason: it is a general principle of first instance and factual/ merits appeal decision-making in planning and environmental proceedings in England that costs lie where they fall unless there has been unreasonable behaviour. The Applicant was asked to but has not provided clear evidence of why a divergent and unprecedented approach to costs is required in this case.
Sch 15 Para 9	Emergency Arbitrator Extensive, detailed and duplicating	Delete Sch 15 Para 9. Reason: whilst there may be emergency circumstances in which the detailed procedural

Provision	Examination Issue	Recommendations
	provisions for an emergency arbitrator are included in the dDCO at Sch 15 Para 9.	timetable for an arbitration as set out in dDCO Sch 15 Para 4 needs to be varied, the amendment to Para 6 recorded above can enable that variation without a need for a separate, parallel and duplicating procedure. On balance the provisions in Para 9 are too complex, not precedent and insufficient case for their retention has been made by the Applicant.
Sch 17 Pts 1 & 2	Certified Documents Missing references '[REP12-XXX]' for documents submitted simultaneously with the Applicants preferred dDCO at D12.	Amend the provision to replace all references to '[REP12-XXX]' with actual Planning Inspectorate document references. Reason: to respond to the submission of intended certified documents at D12 for which no Planning Inspectorate references were then available, ensuring that all references are full and correct as at the end of the Examination.
Sch 17 Pt 1 & 2	Certified Documents Documents submitted at Examination D13 as replacements for earlier versions require to be properly referenced.	Amend the provision to include references to the following documents submitted at D13 and intended to form certified documents: Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Update (Sch 17 Part 1) [REP13-019]

Provision	Examination Issue	Recommendations
		▪ Outline Code of Construction Practice (Sch 17 Part 2) [REP13-005]; ▪ Outline Landscape and Ecological Management Strategy (Sch 17 Part 2) [REP13-007]; and ▪ Outline Operational Drainage Management Plan (Sch 17 Part 2) [REP13-020]. Reason: to update the DCO, ensuring that all references to intended certified documents are full and correct as at the end of the Examination.
Sch 18 (Pts 1 – 6 inclusive)	Offshore Ornithology Compensation Measures Include the draft measures within the DCO.	Remove all enclosing brackets from the D12 dDCO Sch 18 provisions (and from relevant Art 2 definition of “offshore ornithology without prejudice compensation measures”). Reason: to implement the ExA recommendation in Chapter 24 that the draft provisions in Sch 18 advanced by the Applicants on a without prejudice basis to address possible circumstances where there were outstanding AEOI are necessary and should be included in the DCO as made.

30.7. CONCLUSIONS

- 30.7.1. For reasons arising from Chapter 28 (Conclusion on the Case for Development Consent) the ExA recommends that development consent should be granted. It follows that the ExA's primary conclusion is that the dDCO reviewed in this Chapter and presented with relevant amendments recorded above as Appendix D is the recommended DCO (rDCO), which the SoS is recommended to make if the decision is made to grant development consent.
- 30.7.2. However, one significant caveat must be placed around the rDCO found in Appendix D. The recommendation is based on the legal and policy framework extant on the day of closure of the Examination on 6 July 2021. The ExA is alive to the current consultation on the new Energy Suite NPSs and notes that whilst the Proposed Development and dDCO were not examined in the light of those drafts (and nor have they been drawn to the attention of IPs), the effect of the transitional provisions is such that the SoS is entitled to consider this DCO within the framework provided by the current designated NPS EN suite.
- 30.7.3. Should this situation change further before a decision is taken and the SoS needs apply and weight changed policies emerging from the implementation of the December 2020 Energy White Paper and associated strategic developments including (but not limited to) the designation of new Energy Suite NPSs and or other formal policy directions emerging as outcomes from the BEIS Offshore Transmission Networks Review, then the policy drivers for the rDCO may change and basis for the recommendation in this Chapter may also change. Those are matters and circumstances on which the ExA does not formally recommend consultation with IPs, as they may not be relevant to a decision. It will be for the SoS to assess whether any such circumstances have arisen between the submission of this report and the date of the decision and so if and on what terms any further consideration of the rDCO or consultation of IPs might be necessary.

CONCLUSIONS

- Chapter 31: Summary of Findings and Conclusions

31. SUMMARY OF FINDINGS & CONCLUSIONS

31.1. INTRODUCTION

- 31.1.1. This Chapter summarises the ExA's conclusions arising from the Report as a whole and sets out the primary recommendation to the Secretary of State (SoS).

31.2. CONSIDERATION OF FINDINGS AND CONCLUSIONS

- 31.2.1. In relation to section (s)104 of Planning Act 2008 (PA2008) the ExA concludes in summary as follows.
- Making the recommended draft Development Consent Order (rDCO) would be in accordance with NPS EN-1 policies relevant to the provision of additional renewable electricity generating capacity to meet need, and these are policies in respect of which the SoS is under a duty of compliance (PA2008 s104(3)).
 - Making the dDCO would also be in accordance with all relevant policies from NPS EN-1 with respect to assessment principles and the consideration of generic impacts.
 - There are matters with respect to which the compliance found above is marginal: specific reference must be made to the topics of flood risk, historic environment and landscape and visual impact onshore and in relation to biodiversity conservation offshore. However, as is made clear in the conclusions to the relevant chapters and also in the consideration of the Planning Balance (Chapter 28), whilst there are instances in which the proposed siting, design and effects of the Proposed Development approach the margin of what can be deemed acceptable in policy terms, there are in the ExA's judgment, no policy exceedances that indicate against the granting of development consent.
 - Making the dDCO would also be in accordance with all relevant policies from NPS EN-3 with respect to assessment principles for offshore wind and criteria for good design. In the latter respect, again there are instances in respect of which the Proposed Development delivers only marginal performance, but again in the judgement of the ExA with reference to the relevant policy, there are no policy exceedances that indicate against the granting of development consent on balance.
 - Making the dDCO would also be in accordance with all relevant policies from NPS EN-5 with respect to assessment principles for energy networks development. In the latter respect, again there are instances in respect of which the Proposed Development approaches marginality in terms of site selection, good design, and landscape and visual impacts, but again in the judgement of the ExA, there are in the ExA's judgment, no policy exceedances that indicate against the granting of development consent.
 - Relevant development plans and other relevant policy, all of which have been taken into account in this Report, are broadly supportive of

the principle of the Proposed Development whilst also indicating against certain of its specific harms, mainly in the onshore environment.

- The effect of PA2008 s104(3) and the weight of the harms occasioned by the Proposed Development (PA2008 s104(7)) mean that development has a positive planning balance in policy terms.
- The ExA has had regard to the joint Suffolk County Council and East Suffolk Council Local Impact Report [REP2-075] in making its recommendation. The local authorities jointly raise concerns about detrimental effects in relation to matters including landscape and visual amenity, heritage assets, noise, Public Rights of Way and flood risk (amongst others). The LIR highlights that whilst these effects are significantly adverse for the Proposed Development alone and in combination with the other East Anglia Proposed Development and that mitigation at the outset of Examination did not appear to those authorities to be sufficient, mitigation can be delivered, w and the authorities looked to the Applicant to achieve the best improvements to mitigation realisable throughout the Examination process. The judgement for the ExA and the SoS at this point is whether in light of the very substantial and weighty renewable electricity generation benefits of the Proposed Development, sufficient mitigation of acknowledged adverse effects has been achieved and secured. On a fine balance, the ExA concludes that the answer to that question is 'yes'.
- Whilst the SoS is the competent authority under the Habitats Regulations, the ExA has made findings (in Chapter 24) to assist the competent authority. The ExA finds that there are AEOI, but that a derogation case has been made and compensation measures have been advanced and secured. The ExA has found that the derogation case is made out and that the proposed compensation is sufficient. It has taken this finding into account in reaching its recommendation.
- In regard to all other matters and representations received, the ExA has found no important and relevant matters that would individually or collectively lead to a different recommendation to that below.
- There is no reason to indicate that the application should be decided other than in accordance with the relevant National Policy Statements, NPS EN-1, NPS EN-3 and NPS EN-5, noting that a consultation on the replacement of these policies is underway but that the consultation process is clear that existing applications under assessment should be assessed within the framework provided by the currently designated NPSs.

31.2.2. In reaching these conclusions, the ExA needs to refer to submissions from multiple Interested Parties (IPs) that the nature of onshore impacts and mitigations were such that there should be a 'split decision' or partial consent, in which the SoS might be recommended to consent the offshore generating station but not consent the particular means of and location for connecting it to the transmission system onshore. It is important to note that, the ExA having given very careful consideration to all such submissions, because we find that the Proposed Development onshore is policy compliant (albeit marginally so in some respects), we do not consider that there is any basis for such a finding or

recommendation. It should be noted that a substantial rationale for such an approach advanced by multiple IPs was that emerging policy changes would impel a different siting and design approach to onshore transmission connection development than that advanced in the application. The ExA has taken all extant relevant policy into account in reaching its view that a 'split decision' in the form of a partial consent for the offshore development only cannot be justified.

- 31.2.3. The ExA has considered the case for Compulsory Acquisition (CA) and Temporary Possession (TP) of lands and rights required in order to implement the Proposed Development. It has found in general that in circumstances where the planning merits of the Proposed Development are made out, that the powers requested should be granted because they will be required to enable the Applicant to complete the Proposed Development. In addition, the ExA has concluded that if the application is decided as per the recommendation of this Report, there is a compelling case in the public interest for the acquisition of the land and rights sought.
- 31.2.4. The ExA finds that the Applicant does have a clear idea of how it intends to use the land, and funds are available for the implementation of the proposed CA.
- 31.2.5. The ExA has had regard to the provisions of the Human Rights Act 1998. In respect of Art 6 (the right to a fair hearing), the ExA has provided all IPs and particularly all in respect of whom other potential human rights effects might be argued to arise, with a right to participate fully in the Examination. In some cases, there would be interference with the right to respect for private and family life in contravention of Art 8, arising from impacts on homes arising mainly from construction but in some circumstances from the transformation of a home environment during operation. In some cases, there would be interference with peaceful enjoyment of possessions (homes and land) in contravention of Art 1 of the First Protocol of the Human Rights Act 1998. However, on the basis of the findings in relation to the planning merits of the Proposed Development and in relation to the justification for CA of land and rights set out in Chapter 30, if the SoS accepts the conclusions drawn in Chapter 28 then the ExA finds that the wider public interest does justify interference with the human rights of any of the owners and residential occupiers affected by CA and TP.
- 31.2.6. The ExA has had regard to the Public Sector Equality Duty (PSED) for the purposes of its consideration of planning merits (in Chapters 5 to 27) and separately in respect of CA and TP (in Chapter 29). It is satisfied that the Proposed Development does not harm the interests of persons who share a protected characteristic or have any adverse effect on the relationships between such persons and persons who do not share a protected characteristic. On that basis, the ExA is content that, if development consent were to be granted, it would comply with the PSED.
- 31.2.7. The ExA has had regard to all relevant requirements of the Infrastructure Planning (Decisions) Regulations 2010 and is satisfied that, if

development consent were to be granted, those under regulations 3, 3A and 7 would be complied with.

- 31.2.8. In Chapter 30, the ExA has considered the dDCO and made findings and recommended minor changes to the preferred draft form of the dDCO advanced by the Applicant at D12. The purpose of the changes is to provide the SoS with what the ExA views as the best achievable form of dDCO on the basis of which the SoS could make the Order sought. That draft Order is set out at Appendix D to this Report and is recommended by the ExA.

31.3. MATTERS IN RESPECT OF WHICH ADDITIONAL INFORMATION MIGHT BE SOUGHT

- 31.3.1. The ExA has endeavoured to ensure that all matters raised within the Examination and on which conclusions require to be drawn have a complete evidence set from which to draw those conclusions. Reference must be made to the following matters in respect of which the ExA considers that additional information or views might be sought before the SoS makes a decision.

Table 31.1: Matters in respect of which additional information might be sought

Matter	Action	Chapter reference
Flood risk	The SoS may wish to consult the Applicant and IPs on the significant change to the sequential approach set out in the revised NPPF which was published in July 2021, to which parties have not had an opportunity to comment. This policy change is relevant because it relates to a matter in respect of which NPS EN-1 defers to what is now the Framework.	Chapter 6
	The SoS may wish to consult the Applicant and IPs on findings in relation to the appropriate return period to be used for the construction flood management, whether and how there is sufficient space within the order limits	Chapter 6

Matter	Action	Chapter reference
	to accommodate measures to address such a return period.	
Offshore ornithology and Habitat Regulations Assessment	The SoS may wish to consult the Applicant and IPs on findings in relation to cumulative and in-combination ornithological impacts, should revised data be available from other proposed OWF projects, most notably Hornsea Project 4, Dudgeon Extension and Sheringham Shoal Extension (ie if one or more of these applications was to be submitted).	Chapter 18 and Chapter 24
	The SoS may wish to consult the Applicant and IPs on points of clarification on specific minor discrepancies in predicted cumulative collision/displacement figures for certain bird species and consultation on cumulative and in-combination figures submitted by the Applicant at the final Deadline 13 (and in respect of which IPs have not had an opportunity to respond).	Chapter 18 and Chapter 24
Habitat Regulations Assessment	Should the SoS as competent authority disagree with the ExA's reasoning in respect of the Applicant's assessment of AEOI, alternative solutions, IROPI and compensation measures, they may wish to consult the Applicant and IPs.	Chapter 24
Onshore ecology	The SoS may wish to seek a response from NE in terms of its review of the Applicant's most recent submissions	Chapter 20

Matter	Action	Chapter reference
	regarding its draft badger mitigation licence application.	
	The SoS may wish to seek clarification from the Applicant as to whether any additional badger survey work has been undertaken and whether there is any update on the detailed design for those areas of the onshore construction works that might impact on badger setts,	Chapter 20
The DCO	The SoS may wish to consult the Applicant a recommendation to remove aspects of the draft Arbitration provisions in Art 31 and Sch 15 of the DCO. The ExA's rationale for the recommended change is to simplify these provisions and conform them to a broadly supportable approach taken in the made Order for Hornsea Three OWF, in circumstances where the Applicant was not able provide detailed views on the drafting approach before the end of the Examination.	Chapter 30
	The SoS may wish to consult IPs on revised versions of documents proposed to be certified (see Sch 17 of the DCO) in circumstances where changes were made by the Applicant at the last deadline in the Examination and so IPs have not had an opportunity to respond. This list of documents and the IPs with particular interests in them can be found from paragraph 30.5.37 in this Report.	Chapter 30

31.4. RECOMMENDATION

- 31.4.1. The ExA's reasoned findings and conclusions are set out in this Report.
- 31.4.2. The ExA recommends that the SoS for Business, Energy and Industrial Strategy should make the **East Anglia TWO** Offshore Wind Farm Order.

END OF VOLUME 2

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