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B.1 INTRODUCTION

1.1.1 This appendix sets out the Examining Authority's (ExA's) analysis and conclusions relevant to the Habitats Regulations Assessment (HRA). This will assist the Secretary of State for Energy Security and Net Zero (Secretary of State), as the competent authority, in performing their duties under The Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations) and The Conservation of Offshore Marine Habitats and Species Regulations 2017 ('The Offshore Habitats Regulations').

1.1.2 The remainder of this appendix is structured as follows:

- section B.2: Findings in relation to likely significant effects (LSE)
- section B.3: Conservation Objectives
- section B.4: Findings in relation to adverse effects on integrity (AEoI)
- section B.5: HRA conclusions
- Tables B.10 to B.13: Summary tables

1.1.3 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 the LSE test (Stage 1) is to identify the need for an 'appropriate assessment' (AA) undertaken by the competent authority and the activities, sites or plans and projects to be included for further consideration in the AA (Stage 2).

1.1.4 In accordance with the precautionary principle embedded in The Habitats Regulations, consent for the proposed development may be granted only after having ascertained that it will not adversely affect the integrity of European site(s) and no reasonable scientific doubt remains (CJEU Case C-127/02 Waddenzee 7 September 2004).

1.1.5 For the purpose of this recommendation, the term 'European sites' includes Special Areas of Conservation (SAC), candidate SACs, proposed SACs, Special Protection Areas (SPA), potential SPAs, listed and proposed Ramsar sites and sites identified or required as compensatory measures for adverse effects on any of these sites.

1.1.6 The United Kingdom (UK) NSN refers to the network of European sites within the UK.

1.1.7 Policy considerations and the legal obligations under The Habitats Regulations are described in section 2.4 of this recommendation.

1.1.8 The ExA has been mindful throughout the examination of the need to ensure that the Secretary of State has such information as may reasonably be required to carry out their duties as the competent authority. We have sought evidence from the applicant and the relevant interested parties (IPs), including Natural England (NE) and the Joint Nature Conservation Committee (JNCC) as the appropriate nature conservation bodies (ANCBs), through written questions and issue specific hearings (ISHs).

B.1.2 THE APPLICANT'S ASSESSMENT

1.2.1 The applicant's assessment of effects on European sites was presented in the Habitats Regulations Assessment Report [APP-290] at the application stage. This was superseded by [AS-007], [REP1-071], [REP2-009], [REP3-028], [REP4-057], [REP5-036], [REP6-050], [REP7-119] during the examination in response to IP representations, written questions and post-ISH action points, and a change request. Hereafter this will be referred to as the HRA Report, and the final version of the HRA Report [REP7-119] will be referred to unless otherwise specified.

1.2.2 The HRA Report was supported and informed by the Environmental Statement (ES), in particular:

- Suffolk Chapter 2, Ecology and Biodiversity [REP7-093]
- Kent Chapter 2, Ecology and Biodiversity [REP7-095]
- Marine Chapter 1, Physical Environment [REP7-097]
- Marine Chapter 2, Benthic Ecology [REP7-099]
- Marine Chapter 4, Marine Mammals [REP7-101]
- Marine Chapter 5, Marine Ornithology [REP7-103]

1.2.3 The HRA Report (table 3.1, [REP7-119]) identifies 19 European sites within the UK NSN for inclusion within the assessment. At the point of application, the applicant concluded that the proposed development would not adversely affect the integrity of any of the European sites and features assessed, either alone or in combination with other projects or plans.

B.1.3 APPROPRIATE NATURE CONSERVATION BODIES

1.3.1 The proposed development is in England and English waters. The applicant's HRA Report [REP7-119] identifies UK European sites for consideration that are in England and Scotland.

1.3.2 JNCC and NE registered as IPs and participated in the examination. JNCC [RR-2635] advised that whilst the proposed was in the UK inshore region (under the jurisdiction of NE), the cable would pass through the Southern North Sea (SNS) SAC and Outer Thames Estuary (OTE) SPA, which are jointly managed by JNCC and NE.

1.3.3 On 19 September 2025, the ExA wrote to NatureScot inviting it to participate in the examination as an 'other person' [PD-010]. NatureScot did not respond.

1.3.4 The applicant has used the term statutory nature conservation body (SNCB) in its draft Development Consent Order (dDCO). The definition of SNCB in Part 1 of the dDCO [REP7-002] is '*the appropriate nature conservation body as defined in regulation 5 of The Habitats Regulations*.'

B.1.4 NON-UK SITES

1.4.1 Section 4 of the HRA Report [REP7-119] confirms that no European sites in European Economic Area (EEA) states or devolved administrations have been included in the applicant's HRA, and that no other HRA-related consents would be required from different competent authorities. No matters relating to non-UK sites were raised for discussion by any IPs during the examination.

1.4.2 Only UK European sites are addressed in this recommendation.

B.1.5 CHANGE REQUEST

1.5.1 On 26 November 2025, the applicant submitted a change request [CR1-001] to [CR1-072] as described in section 1.5 of this recommendation. These changes were accepted by the ExA [PD-015] as described in section 1.5 of this recommendation. As described in the Report on the Implications for European Sites (RIES) (paragraph 1.4.3, [PD-022]), there were no HRA implications from changes 2 to 5. HRA matters arising from change 1 are considered in this appendix.

B.1.6 RIES AND CONSULTATION

1.6.1 The ExA produced the RIES [PD-022], which compiled, documented, and signposted HRA-relevant information provided in the DCO application and examination representations up to deadline (DL) 5 (10 March 2026). The RIES was issued to set out the ExA's understanding on 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. Consultation on the RIES took place between 18 March 2026 and 13 April 2026.

1.6.2 Comments were received from the applicant [REP6-115], NE [REP6-251], the Campaign to Protection Rural England (CPRE) [REP6-238], the JNCC [REP6-239], Kent Wildlife Trust (KWT) [REP6-240], and the Royal Society for the Protection of Birds (RSPB) [REP6-252] at DL6 (13 April 2026). These comments have been taken into account in the drafting of this appendix.

1.6.3 It is noted that at the point of issue of the RIES, several HRA matters remained outstanding. Numerous examination submissions at DL6 and DL7 included HRA-relevant information. In accordance with the Planning Inspectorate's Advice Page 10 (https://www.gov.uk/guidance/nationally-significant-infrastructure projects-advice-on-habitats-regulations-assessments), the RIES is not revised following consultation. This appendix considers all HRA representations made by IPs during the examination, including those made after publication of the RIES. However, given the amount of HRA information submitted following publication of the RIES, the Secretary of State may wish to undertake further consultation to fulfil the duties under the Habitats Regulations.

B.2 STAGE 1: FINDINGS IN RELATION TO LIKELY SIGNIFICANT EFFECTS

B.2.1 INTRODUCTION

2.1.1 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 the LSE test is to identify the need for an AA and the activities, sites or plans and projects to be included for further consideration in the AA.

2.1.2 The European sites identified in the applicant's HRA Report [REP7-119] are detailed in table B.1 below.

Table B.1: European sites in the UK NSN identified in the HRA Report

Name of European site	Distance from proposed development (kilometres (km))
OTE SPA	0
Sandwich Bay SAC	0
SNS SAC	0
Thanet Coast SAC	0
Minsmere-Walberswick SPA	1.7
Minsmere-Walberswick Ramsar site	1.7
Thanet Coast and Sandwich Bay (TCSB) SPA	0
TCSB Ramsar site	0
Sandlings SPA	0.20
Alde-Ore Estuary (AOE) SPA	1.1
AOE Ramsar site	1.1
Alde-Ore and Butley Estuaries SAC	6.0
Margate and Long Sands SAC	3.0
Stodmarsh SAC	6.5
Stodmarsh SPA	6.9
Stodmarsh Ramsar site	6.9
The Wash and North Norfolk Coast SAC	110
Humber Estuary SAC	160
Berwickshire and North Northumberland Coast SAC	412

2.1.3 The locations of these sites are depicted in appendix E (figure 1 European Sites) of the HRA Report [REP7-119], figure 6.4.4.5.2 'Relevant Designated Sites for the Protection of Ornithology' [REP5-032], figure 6.4.4.4 'Marine Mammal Study Area' [REP1-011] and Statutory and Non Statutory Sites of Nature Conservation Geological and Landscape Importance – Suffolk [CR1-012].

2.1.4 Section 4 of the HRA Report [REP7-119] identifies the potential LSE pathways for consideration in the assessment, as detailed in the summary tables B.10 to B.13 of this appendix.

B.2.2 LSE FROM THE PROPOSED DEVELOPMENT ALONE

2.2.1 The applicant's conclusions in respect of screening are presented in sections 4 to 6 of the HRA Report [REP7-119], with a summary table provided in appendix A.

2.2.2 The HRA Report concludes that the proposed development alone would not be likely to give rise to significant effects on all qualifying features of the Stodmarsh SAC and Alde-Ore and Butley Estuaries SAC. During the examination, NE confirmed it agreed with this conclusion for the Stodmarsh SAC in ExQ1ECOL60 [REP4-196]; however, NE advised [REP7-277] that it could not rule out AEoI of the Alde-Ore and Butley Estuaries SAC as an assessment of impacts had not been included in the HRA Report.

2.2.3 The HRA Report concludes that the proposed development alone would be likely to give rise to significant effects on one or more of the qualifying features of all the remaining sites detailed in table B.1 above.

2.2.4 Regarding the Suffolk onshore scheme, the HRA Report (paragraph 4.2.36, [REP7-119]) lists several standard water quality protection measures proposed to be implemented to avoid pollution. These measures are set out in the Outline Onshore Construction Environmental Management Plan (oCEMP) [REP7-129], which would be secured through requirement 6 of the dDCO [REP7-002]. The applicant states these measures are not proposed specifically to protect European sites and therefore were taken into account when concluding no LSE from pollution (terrestrial – changes in water quality) to the Sandlings SPA, the AOE SPA and Ramsar, and the Alde-Ore and Butley Estuaries SAC. Aside from matters relating to pollution from the proposed permanent outfall serving the Saxmundham converter station (discussed at paragraphs 2.2.11 to 2.2.14 of this appendix) the ExA is content with the applicant's approach.

2.2.5 The HRA Report concludes that all potential impacts during the decommissioning phase would be similar to those outlined in the construction phase and thus construction phase impacts screened in were automatically also screened in for the decommissioning phase.

2.2.6 Matters raised in the examination related to screening are summarised below, focused on matters that were unresolved at the close of examination.

A summary of matters resolved during examination is provided where there were such matters.

OVERARCHING MATTERS

PRECAUTION

2.2.7 KWT [REP1-152], [REP6-240] considered the applicant's screening had failed to apply the precautionary approach by screening out effects where impacts were described as unlikely or not anticipated rather than ruled out. It considered that the screening minimised the significance of likely impacts by using temporal and qualitative descriptors such as "temporary", "localised", or "small in scale" without evidential justification.

2.2.8 The ExA notes the applicant's response [REP2-034] that this is a point in semantics rather than a 'lower test' being applied and is satisfied with the level of precaution applied in the applicant's assessment.

HORIZONTAL DIRECTIONAL DRILLING (HDD) AT THE SUFFOLK AND KENT LANDFALLS

2.2.9 The proposed development includes HDD installation techniques (or an alternative trenchless crossing technique) at both the Suffolk and Kent landfalls. Several IPs were concerned about potential impacts to qualifying features of the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site if trenchless techniques were proved to not be feasible and open-cut trenching was required. Representations were received from NE (B1 and B6, [RR-3920]), KWT [RR-2980], [REP1-151], [REP1-152], [REP4-124], [REP6-240], [REP7-130], [REP7-265], the RSPB [REP1-158], [REP1-159], [REP1-165], [REP6-252], [REP7-054], Save Minster Marshes (SMM) [RR-4892], the National Trust (NT) [REP5-101] and the CPRE in response to RIESQ3 [REP6-246].

2.2.10 The ExA has reported on this matter in the Marine Physical Environment (MPE) and ecology, biodiversity section of this recommendation and is satisfied with the applicant's approach, subject to amendments to the wording of the dDCO, as set out in the recommended DCO (rDCO) and to the Register of Environmental Actions and Commitments (REAC) and other control documents.

ANNEX I HABITAT SACS

ALDE-ORE AND BUTLEY ESTUARIES SAC

Unresolved matters

Pollution (terrestrial – changes in water quality)

2.2.11 NE [REP5-215] advised that the HRA should assess potential for effects on water quality from a proposed permanent outfall serving the Saxmundham converter station, which would be located on a tributary of the River Fromus that feeds into the Alde-Ore and Butley Estuaries SAC. The applicant updated the HRA Report [REP7-119] to include an assessment. It concludes

no LSE based on the outfall only carrying surface water runoff and sustainable drainage systems (SuDS) being implemented. These measures would be secured through the oCEMP (W11, [REP7-129]) and requirement 6 of the dDCO (schedule 3, [REP7-002]). It states that it has a duty of care under relevant environmental regulations to the water environment, which applies irrespective of whether the runoff could affect a European site.

2.2.12 NE did not comment on the applicant's conclusion of no LSE; however it did advise [REP7-277] that it could not rule out AEoI as an assessment of impacts had not been included in the HRA Report.

2.2.13 NE's advice also applied to the AOE SPA and Ramsar site.

2.2.14 On a precautionary basis, the ExA considers there is a potential for LSE for this impact pathway for all qualifying features of the Alde-Ore and Butley Estuaries SAC and the AOE SPA and Ramsar site.

MARGATE AND LONG SANDS SAC

Resolved matters

2.2.15 Kent and Essex Inshore Fisheries Conservation Authority (KEIFCA) [RR-2976] and KWT [RR-2980] raised concerns about impacts to habitat features along the cable corridor near the Margate and Long Sands SAC, and whether sufficient mitigation was proposed. The applicant [REP2-014] stated that the offshore scheme was routed to avoid the Margate and Long Sands SAC and there was no potential for direct effects as the cable corridor would be 3km from the boundary. No further comments were received from KEIFCA or KWT on this matter, which the ExA interprets as those IPs having no further concerns and therefore considers this screening matter to have been resolved during examination.

SANDWICH BAY SAC

Resolved matters

2.2.16 Key matters which the ExA considers have been resolved during examination in respect of the Sandwich Bay SAC are as follows:

- Hydrological impacts from HDD to groundwater dependent humid dune slacks:
    - In response to NE's concerns (B1, B9, B21 and B30 to B33, [RR-3920]) that impacts were not fully considered, the applicant updated the HRA Report (paragraphs 4.4.3 to 4.4.6, and appendix F of [REP7-119]), confirming the absence of an impact pathway due to the chalk aquifer not underpinning the dune slack, and distance between any dewatering and the dune slack. NE responding to ExQ1ECOL59 [REP4-196] confirmed its concerns were addressed.
- Direct habitat loss from cable and/ or scour protection:
    - In response to NE's concerns (E31, [RR-3290]) and [REP3A-028] about the requirement for, and impacts of, permanent cable

protection, the applicant [REP4-241] confirmed 360 square metres (m^2) of concrete mattresses or rock bags would be required in the Sandwich Bay SAC that would be buried in intertidal mudflats (not a qualifying feature). It updated the HRA Report [REP7-119] and confirmed no change to the conclusion as there would be no permanent habitat loss. NE's remaining concerns about cable protection as noted in response to ExQ2BE12, [REP5-199]) did not relate to the Sandwich Bay SAC.

Unresolved matters

Direct habitat loss

2.2.17 HDD at the Kent landfall would take place under the dune slack habitats of the Sandwich Bay SAC. The ExA in RIESQ3 [PD-022] asked the applicant to explain why use of trenchless techniques at the Kent landfall did not constitute mitigation requiring assessment at Stage 2. The applicant responded in RIESQ3 [REP6-122] that its commitment to using trenchless techniques was made prior to completion of impact assessment work. It considered this to be materially different to the position in People Over Wind and Sweetman v Coillte Teoranta (Case C-323/17). It referred to subsequent decisions that confirmed the judgment cannot have the effect of precluding considering constituent elements of the project at screening stage. NE (responding to RIESQ4 [REP6-250]) advised that it had no concerns about the applicant's screening out of LSE for direct habitat loss.

2.2.18 However, the CPRE responding to RIESQ3 [REP6-246] stated that as HDD is relied upon as mitigation, it was incorrect to screen this LSE pathway out at screening stage. KWT [REP6-248] also considered that this pathway should be assessed at Stage 2, stating that HDD was not a fixed feature of the project design but a measure to avoid or reduce harm to the SAC.

2.2.19 The ExA notes that trenchless installation forms a constituent part of the proposed development, and it has not been proposed by the applicant to mitigate any effects to the dune features of the SAC. As such, it agrees with the applicant that a LSE can be ruled out.

Pollution (terrestrial – changes in water quality) - from the use of the hoverport at the Kent landfall

2.2.20 The HRA Report [REP7-119] acknowledges a potential direct pathway of pollution to the Sandwich Bay SAC from the use of the former hoverport to access to the intertidal area. This is addressed under the impact pathway of 'Pollution (terrestrial – changes in water quality)'.

2.2.21 The HRA Report acknowledges the potential for oxidative weathering of the hoverport, which could mobilise heavy metals. It notes there would be a structural integrity assessment of the hardstanding to ensure suitability for the access, which is included in the Outline Construction Traffic Management and Travel Plan – Kent (oCTMTP – Kent) [REP7-123] and a commitment in the oCEMP (W37, [REP7-129] for a hoverport condition monitoring plan. The applicant [REP5-135], responding to ExQ2ECOL26, did not consider there to

be a LSE as the hoverport site would only be used for access and there would be no ground disturbance.

2.2.22 However, this matter was subject to discussion during the examination, with NE [REP4-189], (point 2, [REP4-191]) (J31, [REP4-197]), ExQ2ECOL26 in [REP5-199], [REP5-217] advising that the movement of heavy construction vehicles and plant across the hoverport could result in debris and contaminant release. CPRE [REP3A-012] were concerned that intensified used of the hoverport could result in heavy metal leaching that had not been assessed in the HRA but did not specify for which European sites it was concerned. Other IPs (including photographic evidence) [REP5-154], [REP1A-091], [REP3A-065], [REP4-208], [REP4-209], [REP6-199], [REP6-200] also raised concerns about risk of pollution at Pegwell Bay but did not refer to specific European sites.

2.2.23 The HRA Report (section 3, [REP7-119]) identifies that the Sandwich Bay SAC is susceptible to water pollution, and a LSE from the pollution (terrestrial – change in water quality) pathway due to impacts from frac out is screened in. Given this, on a precautionary basis the ExA considers that changes to water quality from the release of contaminants and debris at the hoverport site should also be considered for potential LSE as part of the pollution (terrestrial – changes in water quality) impact pathway.

2.2.24 Relevant examination matters are discussed in section B.4 of this appendix.

THANET COAST SAC

Resolved matters

2.2.25 Key matters which the ExA considers have been resolved during examination in respect of the Thanet Coast SAC are as follows:

- Temporary physical disturbance during construction and permanent habitat loss of chalk reef:
    - In response to NE's concerns [REP3A-028] about damage to chalk reef from cable installation and operation, the applicant [REP4-241] provided mapping to show that the limits of deviation (LoD) for the proposed development avoid chalk reef. The Benthic Characterisation Report [APP-196] also identified that chalk reef is a geological feature, which does not support benthic communities. NE (new issue 36, appendix D, [REP5-217]) confirmed this matter as resolved.
- Physical process change or ecological halo effects from cable protection:
    - In response to NE's concerns (E44, [RR-3920]), the applicant [REP4-085] stated that halo effects from colonisation of marine structures typically arise where tall, complex structures support filter-feeding communities. Due to the cable protection's profile and distribution, the applicant considers this type of colonisation would not occur, and similarly concludes a negligible effect from sediment transport change [REP5-019]. NE (E44, [REP5-222]) recorded this matter as resolved.

Unresolved matters

Temporary physical disturbance to benthic habitats and species

2.2.26 The HRA Report [REP7-119] notes that the Kent landfall is located within the boundary of the Thanet Coast SAC, however, confirms that HDD activities are located away from the reef and sea cave qualifying features. It concludes no LSE from temporary physical disturbance.

2.2.27 As noted at paragraph 2.2.9 above, several IPs raised concerns about HDD installation and impacts to the Thanet Coast SAC. SMM [REP7-210] maintained that it did not consider that no AEoI could be concluded.

2.2.28 The ExA is content based on the updated HRA information that a LSE from temporary physical disturbance can be screened out.

Pollution (terrestrial – changes in water quality) – from the use of the hoverport at the Kent landfall

2.2.29 The HRA Report [REP7-119] does not consider this matter for the Thanet Coast SAC.

2.2.30 NE's comments described at paragraph 2.2.22 of this appendix regarding impacts from the release of contaminants and debris at the hoverport site also apply to the Thanet Coast SAC. NE raised concerns about the risk of toxic heavy metal release, which could affect features of the SAC. NE's concerns were echoed by KWT [REP4-124] and SMM [REP1-246], [REP3A-171], [REP6-148], [REP6-173] [REP6-214].

2.2.31 Noting the proximity of the Thanet Coast SAC to the hoverport area and that the SAC is susceptible to water pollution, the ExA also considers it reasonable to screen in a LSE from this potential pollution source.

2.2.32 Relevant examination matters are discussed in section B.4 of this appendix.

MARINE MAMMAL SACS

SNS SAC

Resolved matters

2.2.33 The following screening matter was resolved during examination in respect of the SNS SAC:

- Indirect effects through impacts to prey species:
    - Responding to the JNCC's concerns [RR-2635], [REP1-210], the applicant explained (ExQ1MM12) [REP4-083], (table 1.3, [REP4-094]) that <0.01% of the habitat of the SNS SAC could be affected by the proposed development. It concluded no LSE due to changes in the availability of prey species and that there is no potential to add to any in-combination effects. The JNCC responding to ExQ3MM4 [REP6-264] agreed that owing to the highly localised effect of the impact, a LSE was unlikely.

TERRESTRIAL ORNITHOLOGY SPA AND RAMSAR SITES

AOE SPA AND RAMSAR SITE

Unresolved matters

Pollution (terrestrial – changes in water quality)

2.2.34 See paragraphs 2.2.11 to 2.2.14 of this appendix regarding the proposed permanent outfall serving the Saxmundham converter station. On a precautionary basis, the ExA considers there to be potential for LSE from this impact pathway for all qualifying features.

MINSMERE-WALBERSWICK SPA AND RAMSAR SITE

Unresolved matters

Direct habitat loss - seawater incursion

2.2.35 The impacts of seawater incursion were not initially addressed by the applicant. However, Suffolk Energy Action Solutions Ltd (SEAS) [RR-5210] considered that the landfall and cables could cause seawater incursion to marshland due to the weakening of the natural storm ridge which would allow sea defences to breach. It advised that seawater incursion could have catastrophic implications for bittern of the Minsmere and Walberswick SPA.

2.2.36 The applicant [REP1A-043] responded that a trenchless technique at the landfall would avoid physical disturbance of watercourses and areas of coastal floodplain. It stated that no plant would operate on the natural storm shingle ridge at the Suffolk landfall and, therefore, there would be no potential for it to be weakened or for seawater incursion to occur. It confirmed that monitoring of existing flood defences would be undertaken during cable installation. Furthermore, it noted that impact on water levels in the RSPB North Warren Reserve from HDD was assessed in Suffolk Chapter 2, Ecology and Biodiversity [REP7-093].

2.2.37 As noted in sections 3.6 MPE and 3.14 ecology, biodiversity and ornithology of this report, the ExA is content that the cable is of sufficient depth that it would not impact on the natural foreshore storm ridge. The ExA does not consider there to be a LSE from this impact pathway.

SANDLINGS SPA

2.2.38 No matters relating to the screening of effects on the Sandlings SPA were discussed during the examination.

STODMARSH SPA AND RAMSAR SITE

Unresolved matters

Loss of functionally linked land for hen harrier

2.2.39 The RSPB [REP1-158] note the record of hen harrier along the River Stour during the wintering bird survey and queried the screening out of the Stodmarsh SPA. KWT [REP6-240] considered species' specific surveys

should have been undertaken and that it is not possible to conclude beyond reasonable scientific doubt that there would be no LSE. The CPRE responding to RIESQ7 [REP6-238] also questioned the conclusion of no LSE in the absence of survey data.

2.2.40 The applicant [REP2-034] responded that given the 6.9km distance between the SPA and the order limits, and as hen harriers are not purely found in SPAs, there was a low likelihood these birds were from the Stodmarsh SPA. On the basis of the information provided, including the wintering bird surveys, NE responding to RIESQ7 [REP6-250] agreed there would be no LSE. However, the matter is recorded as not agreed in the Statement of Common Ground (SoCG) with the RSPB [REP7-054]. No further comments on this matter were received in the final submissions of the CPRE [REP7-193] or KWT [REP7-202].

2.2.41 The ExA is satisfied, based on the applicant's reasoning, that LSE in respect of hen harrier can be screened out for the proposed development.

TCSB SPA AND RAMSAR SITE

Resolved matters

2.2.42 Key matters which the ExA considers have been resolved during examination in respect of the TCSB SPA and Ramsar site are as follows:

- Temporary increases in suspended sediment concentration (SSC) and sediment deposition:
    - NE [REP4-191] advised this pathway be assessed as the intertidal reef, mudflats and sandflats provide valuable feeding grounds and roosting areas. Although the HRA Report [REP7-119] does not explicitly consider the impact pathway in the screening section, consideration is given to the matter in the Stage 2 assessment of effects under the impact pathway heading 'Potential for indirect effects through impacts to prey species.' As such, the ExA considers a LSE to be acknowledged by the applicant.
- Loss of functionally linked land (FLL):
    - NE (B19, [RR-3920]) considered loss of FLL used by golden plover should be a construction phase impact, not operational as assessed by the applicant. Nevertheless, NE [REP3-117] did not consider a change to the HRA Report essential to the outcome of assessment as the impact had been considered and satisfactorily mitigated.
- Air quality – operational phase:
    - The HRA Report (paragraph 4.4.40, [REP7-119]) was revised during the examination to address NE's concerns regarding operational traffic emissions (B24 and B37, [RR-3920]) to confirm there would be up to four daily car or light goods vehicle trips during operation. NE [REP3-117] confirmed this matter as resolved.

Unresolved matters

Pollution (terrestrial – changes in water quality) – from the use of the hoverport at the Kent landfall

2.2.43 The HRA Report [REP7-119] acknowledges a potential direct pathway of pollution to the TCSB SPA and Ramsar site from the use of the former hoverport to access to the intertidal area. This is addressed under the impact pathway of 'Pollution (terrestrial – changes in water quality)'.

2.2.44 See paragraph 2.2.22 of this appendix regarding concerns related to impacts from the release of contaminants and debris at the hoverport site. NE raised concerns about the risk of toxic heavy metal release, which could affect features of the TCSB SPA and Ramsar site. NE's concerns were echoed by KWT [REP4-124], CPRE, SMM and other IPs as described above.

2.2.45 The HRA Report (section 3, [REP7-119]) identifies that the TCSB SPA and Ramsar site is susceptible to water pollution, and a LSE from the pollution (terrestrial – change in water quality) pathway due to impacts from frac out is screened in. Given this, on a precautionary basis the ExA considers that changes to water quality from the release of contaminants and debris at the hoverport site should also be considered for potential LSE as part of the pollution (terrestrial – changes in water quality) impact pathway. Relevant examination matters are discussed in section B.4 of this appendix.

Pollution (terrestrial – changes in water quality) - from the Minster converter and substation

2.2.46 At DL7, NE [REP7-270] noted that additional information had been provided in the HRA Report (paragraph 4.4.43, [REP7-119]) detailing that discharge outfalls associated with the Minster converter and substation would have a downstream connection to the TCSB SPA and Ramsar site. It did not contest the applicant's conclusion of no LSE. However, it advised that an additional REAC commitment be provided detailing the chemical and biological parameters that the discharged water would meet and how this would be monitored and managed throughout the lifetime of the project.

2.2.47 On a precautionary basis, the ExA has also identified the potential for LSE from this impact pathway and has therefore considered this matter in its consideration of AEoI for TCSB SPA and Ramsar site.

2.2.48 Relevant examination matters are discussed in section B.4 of this appendix.

Potential for indirect effects through impacts to prey species during operation

2.2.49 The Environment Agency (EA) [REP4-185], [REP5-088] noted concerns about cable burial depth at the Kent landfall not being sufficient to avoid exposure from northwards migration of the River Stour. NE [REP3-118] responding to ExQ2PE4, [REP5-199]) highlighted risks of cable exposure and the impacts of operational phase remedial works on the intertidal and shallow subtidal mudflats and saltmarsh providing supporting habitat to the TCSB SPA and Ramsar site.

2.2.50 NE's advice did not specify which impact pathway its concerns related to, however the ExA understands it to be indirect effects through impacts to prey species during the operational phase. The ExA considers there is a clear pathway for effects during operation and has applied the precautionary principle in concluding there to be a LSE.

MARINE ORNITHOLOGY SPAS

OTE SPA

Resolved matters

2.2.51 Key matters which the ExA considers have been resolved during examination in respect of the OTE SPA are as follows:

- Permanent loss of foraging habitat for qualifying features:
    - Responding to NE's concerns (E43, [RR-3920]), the applicant revised the HRA Report [REP7-119] to confirm up to 7.35km of cable might require cable protection in the OTE SPA. This would result in a loss of 0.0515km^2 of supporting habitat, equating to 0.0013% of the SPA. A conclusion of no LSE was agreed with NE (ExQ1ECOL61) [REP4-196].
- Airborne sounds and visual disturbance during operation:
    - NE (G2, G3, G4 and G9, [RR-3920]) and the JNCC [REP1-210], [REP3-090] raised concerns about the potential for impacts to red-throated diver (RTD) during the operational phase. The applicant revised the HRA Report (paragraph 4.3.14, [REP7-119]) to confirm that airborne sounds and visual disturbance during operation was taken forward for appropriate assessment.

B.2.3 LSE FROM THE PROPOSED DEVELOPMENT IN COMBINATION

2.3.1 The applicant addresses potential in-combination effects arising from the proposed development with other plans or projects detailed in section 5.3 of the HRA Report [REP7-119]. It identifies the plans or projects, which when considered in-combination with the proposed development, could result in significant effects.

2.3.2 Matters raised in the examination related to screening of in-combination effects are summarised below, focused on matters that were unresolved at the close of examination.

UNRESOLVED MATTERS

APPLICANT'S APPROACH

2.3.3 The applicant responding to ExQ1ECOL49 [REP3-069] confirmed that no in-combination LSEs had been identified where LSE had been excluded from the proposed development alone. KWT [REP6-240] raised concerns with this approach, as it did not recognise that effects which are not significant when

considered in isolation may become significant when combined with other plans or projects.

ExA's consideration

2.3.4 The ExA considers that the applicant's approach is consistent with practice on other major developments. The ExA notes that NE did not raise any concerns with the applicant's proposed approach and KWT did not provide specific examples of its concerns. The ExA is therefore satisfied with the applicant's approach.

THE ABERDEENSHIRE TO RICHBOROUGH AND KULIZUMBOO INTERCONNECTOR PROJECTS

2.3.5 KWT [REP4-124], [REP6-169], [REP6-240], [REP6-266] highlighted the potential for in-combination effects on the TCSB SPA and Ramsar site and the Thanet Coast SAC from multiple projects placing similar pressures in the same location. It was particularly concerned about the omission of the Aberdeenshire to Richborough project from the in-combination assessment which is currently proposed to make landfall at Pegwell Bay. It urged an assessment of the project on the basis of a realistic worst case scenario (WCS). CPRE Kent [REP4-108], [REP6-238] also considered the Aberdeenshire to Richborough project to be reasonably foreseeable.

2.3.6 The applicant [REP5-132] (table 5.1, [REP6-109]) explained that the Aberdeenshire to Richborough cable project had not been passed from the National Energy System Operator to the applicant for development and there is no information available such as connection points, programme or need. It did not consider a reasonable cumulative assessment could be undertaken.

2.3.7 [REP6-279], [REP7-228] stated that the applicant had failed to show the cumulative effects of the proposed Kulizumboo Interconnector project, which the representations stated had a completion date of 2027 and a high likelihood of making landfall at Pegwell Bay.

2.3.8 The applicant [REP7-257] explained that it has no information about the Kulizumboo Interconnector project other than what is provided on the project website and that connection point is identified as Canterbury 400 kilovolt substation (not Richborough or Minster).

2.3.9 The HRA Report (paragraph 5.1.2, [REP7-119]) states that the method used to identify other plans and projects for inclusion in the in-combination assessment is set out in ES Appendix 1.5.A Cumulative Effects Assessment Methodologies [APP-091]. Paragraph 1.5.7 and table 1.2 of [APP-091] explain that the long list was identified following the 3 tiered approach recommended in the Planning Inspectorate's advice on cumulative effects assessment, with tier 3 being projects for which the least information is available comprising projects on the Planning Inspectorate's programme that have not yet been subject to a scoping opinion, projects identified in a relevant development plan or other programme where such development is reasonable foreseeable to come forward. The Aberdeenshire to Richborough

and Kulizumboo Interconnector projects were not identified in the long list in ES Appendix 1.5.B [APP-092].

ExA's consideration

2.3.10 The ExA considers that applicant's approach to identifying other plans or projects for inclusion in the in-combination assessment is appropriate. It agrees based on the applicant's explanation of available information about the Aberdeenshire to Richborough and Kulizumboo Interconnector projects that there is insufficient detail to include them as tier 3 development and they are therefore at too early a stage of development to be considered in-combination with the proposed development.

IN-COMBINATION AIR QUALITY EMISSIONS

2.3.11 In its relevant representation, NE (B18 and B26, [RR-3920]) requested further explanation as to whether there could be LSE from in-combination construction phase emissions, although did not specify for which European sites its concern related to. NE responding in ExQ1ECOL64 [REP4-196] subsequently advised that air quality related aspects could be addressed using its standard advice (included in [REP3-117]).

2.3.12 The applicant [REP2-014] explained that the predicted project alone effects are too small to show in the model, and it considered there would be no in-combination effect. It provided a technical note (appendix A, [REP6-102]) detailing how the assessments complied with the standard advice. It confirmed a process contribution of 0.0 µg/cubic metre (m^3) in oxides of nitrogen concentrations at all assessed designated sites, which is less than NE's standard advice threshold of 1% of critical level/load (Step 4a). Consequently, the applicant concluded there would be no meaningful increment to aggregate with other plans or projects (Step 4b). NE [REP7-268] stated that it had not reviewed [REP6-102] owing to insufficient time but had engaged with the applicant in a series of meeting to consider its position; it was therefore unclear if NE's concerns were resolved.

ExA's consideration

2.3.13 Further to the applicant's explanation, the ExA is content that an in-combination LSE from construction phase emissions will not arise on any European site.

B.2.4 LSE ASSESSMENT OUTCOMES

2.4.1 Sections 4 and 5 of the HRA Report [REP7-119] provide the applicants assessment of LSE for the proposed development alone or in-combination, respectively. The European sites and qualifying features for which the applicant concluded there could be LSE because of the proposed development alone or in combination with other plans and projects are summarised in section 6.

2.4.2 The Alde-Ore and Butley Estuaries SAC and the Stodmarsh SAC are the only European sites for which the applicant concluded there would be no

LSE. The ExA is satisfied based on the information provided that there would be no LSE from the proposed development alone or in combination with other projects and plans on the Stodmarsh SAC. However, it disagrees with the applicant's conclusion of no LSE for the Alde-Ore and Butley Estuaries SAC for which it considers that there is also potential for LSE to all qualifying features. On a precautionary basis, the ExA has considered this SAC for AEoI in section B.4 of this appendix.

2.4.3 Taking into account the reasoning set out above, the ExA agrees that a LSE exists for all other sites identified by the applicant. It agrees the correct LSE impact pathways have been identified by the applicant, subject to the inclusion of the following additional LSE pathway, which is considered on a precautionary basis for AEoI in section B.4 of this appendix:

- potential for indirect effects through impacts to prey species during operation – TCSB SPA and Ramsar

2.4.4 In addition, the ExA does not agree with the applicant's conclusions of no LSE from the following impact pathways to the European sites listed and has also considered these on a precautionary basis for AEoI in section B.4 in this appendix:

- pollution (terrestrial – changes in water quality) – all qualifying features of the Alde-Ore and Butley Estuaries SAC and the AOE SPA and Ramsar site
- pollution (terrestrial – changes in water quality) – from the use of the hoverport at the Kent landfall – all qualifying features of the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site
- pollution (terrestrial – changes in water quality) – discharge from the Minster converter station and substation outfalls – all qualifying features of the TCSB SPA and Ramsar site

2.4.5 The ExA is satisfied that the applicant has identified the correct plans and projects in section 5.3 of the HRA Report [REP7-119]. It is satisfied with the LSE impact pathways considered.

2.4.6 Tables confirming the European sites, qualifying features and impact pathways for which the ExA concludes there is potential for LSE from the proposed development and in-combination with other projects and plans are presented in summary tables B.10 to B.13 of this appendix.

B.3 CONSERVATION OBJECTIVES

3.1.1 The conservation objectives for the European sites and features for which a LSE was identified by the applicant are included in the HRA Report [REP7-119] at section 3. This includes information on pressures to, and threats on, the European sites and the conservation status of marine SACs and SPAs.

3.1.2 The applicant responding to ExQ1ECOL50 [REP3-069] confirmed that NE does not publish the conservation status for terrestrial SACs or SPAs.

3.1.3 Section 3 of the HRA Report [REP7-119] notes that the following are in unfavourable condition:

- Margate and Long Sands SAC – sandbanks which are slightly covered by sea water all the time.
- OTE SPA – RTD and little tern.
- Thanet Coast SAC – reefs (40% unfavourable recovering).
- TCSB SPA – European golden plover, ruddy turnstone and little tern.
- The Wash and North Norfolk Coast SAC – sandbanks which are slightly covered by sea water all the time (28% unfavourable recovering), mudflats and sandflats not covered by sea water at low tide (99% unfavourable no change and 1% unfavourable declining), large shallow inlets and bays (60% unfavourable no change) and reefs (1% unfavourable, 37% unfavourable recovering and 61% unfavourable no change).

3.1.4 KWT [REP1-151] raised concerns that the applicant had failed to assess effects against site conservation objectives. The applicant [REP2-034] stated that legislation does not stipulate how the conservation objectives must be referenced. It considered that the impact pathways assessed were directly relatable to the conservation objectives and that the assessment had been made in view of site conservation objectives.

B.4 STAGE 2: FINDINGS IN RELATION TO AEOI

B.4.1 INTRODUCTION

4.1.1 The proposed development is not directly connected with, or necessary to, the management of a European site. Therefore, the Secretary of State must make an AA of the implications of the proposed development on potentially affected European sites in light of their conservation objectives.

4.1.2 The European sites and qualifying features for which LSEs were identified 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 applicant's assessment of AEoI is summarised in sections 7 and 8 of the HRA Report [REP7-119] for the proposed development alone and in combination respectively.

4.1.3 The applicant's assessment takes into account mitigation measures, which are detailed within sections B.4.3 to B.4.6 of this appendix below for each receptor group.

4.1.4 The HRA Report [REP7-119] concludes the proposed development would not adversely affect the integrity of any of the European sites and features assessed, either alone or in combination with other projects or plans.

4.1.5 During the examination, queries were raised for every site for which a LSE was identified. The applicant revised the HRA Report [REP7-119] throughout the examination to reflect its position on these matters. Matters raised in the examination are detailed below for each site, preceded by a summary of overarching matters.

B.4.2 OVERARCHING ISSUES

RESOLVED MATTERS

MAXIMUM DESIGN SCENARIO FOR COASTAL AND MARINE PROCESSES' IMPACTS AT THE KENT LANDFALL

4.2.1 NE [REP4-191], [REP5-217] considered that the impacts of the proposed development on marine physical processes and the marine physical environment had not been fully identified or quantified. It advised this be addressed in order to inform the assessment of impacts to ecological receptors, including the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site.

4.2.2 Key matters which the ExA considers have been resolved during examination in respect of the maximum design scenario (MDS) for coastal and marine process change are as follows:

- In response to NE's request [REP4-191], [REP5-217] to update the MDS for construction including seabed disturbance due to cable installation and changes to hydrodynamics, sediment transport and morphology due to HDD exit pits and cofferdams the applicant provided the Pegwell Bay Construction Method Technical Note (PBCMTN) [REP7-146], which it continued to update in response to NE's comments [REP4-191] (new issue J30, [REP4-197]) and KWT responding to ExQ2MO5 [REP5-196]. It revised the MDS within Marine Chapter 1, Physical Environment (table 1.19, [REP7-097]) including temporary cofferdam dimensions and breakdown of seabed disturbance (total areas). NE responding to ExQ2PE4 [REP5-199] confirmed its MDS concerns relate primarily to impacts on intertidal and shallow subtidal mudflats and saltmarsh features which provide supporting habitat to the TCSB SPA and Ramsar site, as reported in section B.4.5 of this appendix and therefore not to the Sandwich Bay SAC and the Thanet Coast SAC. It was satisfied (new issue 30, appendix D, [REP5-222]) with the applicant's explanation [REP4-027] of the WCS assessed for cofferdams.
- NE [REP4-191] requested a full assessment of the realistic WCS in relation to impacts of the proposed development on marine physical

processes as a result of the proposed order limit change at the former hoverport. The applicant [REP5-132] confirmed there would be no change to the WCS assessed and stated that the Order Limit extension included in the applicant's change application was to provide flexibility to avoid impacts on the saltmarsh only.

MITIGATION FOR POLLUTION (TERRESTRIAL – CHANGES IN WATER QUALITY) – FROM FRAC OUT

4.2.3 Key matters which the ExA considers have been resolved during examination in respect of mitigation for frac out are as follows:

- The applicant committed to notifying and consulting NE and the RSPB on methods, locations and routes for spotters in the event of frac out in the oCEMP (B60, [REP7-129]) and REAC (B60, [REP7-359]). A high level plan was provided in appendix A of [APP-321].
- In response to NE's requests (B29, [RR-3920]), [REP4-195], the applicant committed to using handheld pumps operated at low pressure for dealing with frac out in the oCEMP (B61, [REP7-129]) and REAC (B61, [REP7-359]). NE (RI_J6, [REP7-364]) confirmed this matter was resolved.

UNRESOLVED MATTERS

ALTERNATIVES AND THE MITIGATION HIERARCHY

4.2.4 The RSPB [RR-4651], [REP1-158] considered there to have been insufficient consideration of alternatives to avoid impacts on designated sites. KWT [RR-2980], [REP1-152] was similarly concerned that less damaging onshore cable route options had not been included, specifically in relation to the permanent loss of land functionally linked to the TCSB SPA. It considered the mitigation hierarchy had not been properly applied [REP6-240]. CPRE Kent [REP1-147], [REP1-148], [REP1A-044] similarly considered the applicant had bypassed the primary step of avoidance and sought to retrofit mitigation to an unsuitable location; it did not agree there would be no alternative routes to going through Pegwell Bay. This was disputed by the applicant [REP1-115], [REP3-067], [REP5-092], [REP7-192] who asserted it had followed the mitigation hierarchy and identified opportunities to avoid and mitigate constraints whenever possible.

ExA's consideration

4.2.5 The ExA considers that it would be preferable to have avoided a landfall in Pegwell Bay but as set out in section 3.3 of this recommendation, accepts the applicant's reasoning regarding its approach to assessing alternatives and the basis for the final route option selected.

ASSESSMENT APPROACH

4.2.6 KWT [REP1-152] noted that impact pathways on sites had been considered separately but if addressed together there could be greater effects. The applicant [REP2-034] disputed KWT's assertion, noting it was not aware of any HRA that does not present its assessment by impact pathway.

4.2.7 SMM [REP5-167] raised general concerns about the applicant's assessment of impacts to the TCSB SPA and the Sandwich Bay SAC stating that there were deficiencies that raised doubt about whether a legally compliant appropriate assessment could be undertaken. It referred to detail in [REP4-144], where it raised concerns about little tern and turnstone of the TCSB SPA but did not specify for which impacts.

ExA's consideration

4.2.8 The ExA notes the concerns of KWT and SMM, but considers that the applicant's approach to assessment follows established practice. Furthermore, neither party provided specific details of their concerns.

KENT LANDFALL

Pollution (terrestrial – changes in water quality) – from the use of the hoverport)

4.2.9 As detailed in section B.2.2 above, the ExA considers there to be potential for a LSE to the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site from pollution (terrestrial – changes in water quality) due to the use of the hoverport site at the Kent landfall. This is not assessed in the Stage 2 assessment in the HRA Report [REP7-119].

4.2.10 NE [REP4-189] (point 2, [REP4-191]) (J31, [REP4-197]), CPRE [REP3A-012], KWT [REP4-124], SMM [REP1-246], [REP3A-171], [REP6-148], [REP6-173] [REP6-214] and other IPs (including photographic evidence) [REP1A-091], [REP3A-065], [REP4-208], [REP4-209], [REP5-154], [REP6-199], [REP6-200] raised concerns about release of contaminants from use of the hoverport for access to the intertidal area, with SMM [REP7-210] stating AEoI could not be excluded. The applicant (responding to ExQ2ECOL26) [REP5-135] confirmed it is a potential contamination source due to presence of colliery spoil and historic fuel storage. The HRA Report (paragraphs 4.4.17 to 4.4.20, [REP7-119]) sets out a pathway from oxidative weathering when material is exposed to air. It states that this would not occur where the hardstanding is intact but could where it is degrading. Paragraph 4.4.21 lists proposed standard water quality protection measures from the oCEMP [REP7-127], as summarised in the REAC [REP7-359], to prevent discharge into ground and surface waters. Measures would be secured through requirement 6 of the dDCO [REP7-002].

4.2.11 NE responding to ExQ2ECOL26 [REP5-199], [REP5-217] was unclear how the hoverpad's structural integrity would be affected by heavy plant and vehicle movements, which could result in release of contaminants such as coal affecting water acidity and toxic heavy metal. KWT [REP4-124] echoed these concerns and maintained in response to ExQ3GEN2 [REP6-266] that there was a credible pathway to contamination resulting in adverse effects on saltmarsh habitat that supports the TCSB SPA and Ramsar site. KWT [REP6-240] considered the applicant's approach was not consistent with the mitigation hierarchy as reasonable opportunities to avoid or reduce harm had not been pursued.

4.2.12 The HRA Report [REP7-119] states that suitability of the hardstanding would be checked through pre-construction survey as required in the oCTMTP - Kent [REP7-123], to avoid mobilisation of contamination from vehicle movements. Vehicles would not track over broken concrete, or repair works or trackway would be used to prevent damage to integrity. The oCEMP (W37, [REP7-129]) and Outline Offshore CEMP (oOCEMP) (W37, [REP7-127]) include commitments to monitoring of the hoverport condition during construction and managing potential contamination risk, which NE [REP6-244] RIESQ6 in [REP6-250] welcomed.

4.2.13 The ExA [PD-025] proposed wording for additional controls, limiting vehicle movements to structurally sound pathways informed by non-invasive baseline surveys, together with monitoring of the hoverport condition. In response, the applicant inserted requirement 22 in the dDCO [REP7-002]. The applicant would be required to prepare and submit a report to the relevant planning authority for approval in consultation with the EA and the SNCB prior to works requiring vehicles to traverse the hoverport. This would include survey of the concrete skirt integrity, subsurface materials and bay sediments. NE [REP7-277] supported the ExA's wording but requested it include agreement of the number of return trips by vehicle type and a vehicle speed limit to reduce vibration. Thanet District Council (TDC) [REP7-314] supported addition of the ExA's proposed wording. The EA did not comment.

4.2.14 NE retained concerns [REP7-273] that containment measures would involve use of cement to stop leeching and requested further investigation of options. It stated that structural integrity issues were not considered and advised that this should include further consideration of impacts from debris although it did not elaborate on any specific information it was seeking. The applicant could not respond as the examination closed.

4.2.15 The ExA screened in all European sites at the Kent landfall for this LSE pathway on a precautionary basis as explained in section B.2 of this appendix; however, the ExA notes that NE [REP7-277] advised that it agreed no AEoI of the Sandwich Bay SAC and the Thanet Coast SAC.

ExA's consideration

4.2.16 The ExA considers that the measures set out in requirement 22 would ensure that further break-up of the hoverport concrete surface and tracking of contaminated material into the intertidal area would be avoided. The ExA is satisfied that drainage discharge measures summarised in the REAC, which would be secured by requirement 6 of the dDCO, would prevent pollution via runoff. Use of the hoverport would be limited to vehicle access and could not commence until a structurally sound vehicle route has been proposed and agreed with the relevant planning authority in consultation with the SNCB, secured through requirement 22.

4.2.17 Requirement 22(2)(a) would require the applicant to survey the concrete skirt integrity and subsurface materials, and select a route that would avoid

degradation and therefore risk of debris in the coastal waters and the intertidal area.

4.2.18 The ExA has considered NE's comments regarding the need to amend requirement 22(2)(b) to specify the number of return trips and a speed limit to be agreed to ensure that potential impacts are minimised to resolve NE outstanding concerns. However, the ExA considers that the ExA's proposed wording of rDCO schedule 16, condition 4 to require provision of an intertidal works methodology and mitigation plan for Pegwell Bay to the Marine Management Organisation (MMO) in consultation with the SNCB provides an appropriate framework to secure this detail.

4.2.19 To ensure that any contamination is contained, the ExA has proposed an additional requirement in the rDCO "**22(3) Where the trigger levels referred to in 22(2)(c) demonstrate that action is necessary to contain contaminated materials, the applicant shall cease activities that are causing release of contaminating materials and submit proposals for remediation to the Environment Agency, in consultation with the SNCB and the relevant planning authority. The works shall be implemented as approved.**"

4.2.20 The ExA considers that the applicant has applied the mitigation hierarchy as using the hoverport would avoid worse impacts from trying to access the intertidal area from other locations, for example crossing saltmarsh or dune habitats.

4.2.21 The ExA notes NE's advice that AEoI can be excluded for the Sandwich Bay SAC and the Thanet Coast SAC and therefore understands that NE's outstanding concerns for this LSE pathway relate to the TCSB SPA and Ramsar site.

4.2.22 On the basis of the above information, including the measures secured by requirement 22 of the rDCO, the ExA is satisfied that there would be no AEoI of the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site from the proposed development alone or in combination with other plans or projects from this LSE pathway.

Mitigation

Pollution (terrestrial – changes in water quality) – from frac out

4.2.23 The HRA Report [REP7-119] identified mitigation to address the risk of frac out, which could result in LSE to the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site due to pollution from changes in water quality.

4.2.24 NE [RR-3920], [REP4-197], KWT [REP1-152], ExQ1ECOL26 in [REP3-092], the RSPB [RR-4651], [REP1-158], the NT [REP5-101] and the EA [RR-1586] raised concerns about the applicant's proposals for management of construction phase impacts from HDD installation and frac out, which could lead to changes in water quality.

4.2.25 By close of examination, the applicant had committed to produce a HDD landfall method statement (LMS) and drilling fluid management plan (DFMP) prior to commencement of any HDD activities in consultation with NE, KWT, the RSPB and others for approval by the relevant planning authority (dDCO) and the MMO (draft deemed marine licence (dDML)) as relevant. The DFMP commitment was set out in the oCEMP (B59 and GH10, [REP7-129]) (secured through requirement 6 of the dDCO [REP7-002]), and the Outline Cable Specification and Installation Plan (oCSIP) [REP7-159] and oOCEMP (B59, [REP7-127]) (secured through the dDML Condition 4(1)(a) and (b) and Condition 4(4) in schedule 16 of the dDCO [REP7-002]. The measures are summarised in the REAC [REP7-359].

4.2.26 NE [REP5-215] continued to advise that an outline DFMP should be submitted to the examination to inform decision-making. The oCSIP and oOCEMP include several principles for the DFMP. The applicant [REP6-109] maintained that preparation of the plan post-consent was a standard approach accepted on other nationally significant infrastructure projects such as Five Estuaries offshore wind farm (OWF).

4.2.27 NE (B29, [REP3A-025], [REP4-197]), [REP3A-028], ExQ1ECOL28 in [REP4-196] maintained concerns about access to saltmarsh in the event of a frac out. It requested an outline intertidal management plan. NT [REP5-101] echoed NE's concerns and request. The applicant did not consider that such a plan was required given its commitments in other management plans. The ExA [PD-024] recommended the insertion of a new Condition 4(1)(a) to the DML in schedule 16 of the dDCO requiring an intertidal works methodology and mitigation plan for Pegwell Bay. The applicant inserted the requirement for this plan as part of the detailed CSIP in Condition 4(1)(a)(iv) of the dDML in schedule 16 of the dDCO [REP7-002]. It stated (table 3.8, [REP7-085]) that it would be more appropriate to sit in the CSIP to avoid duplication of approvals from the MMO. NE and NT did not comment on the ExA's suggestion and could not comment on the applicant's approach due to close of examination.

4.2.28 The ExA in ExQ2ECOL53 [PD-021] asked IPs if they were satisfied that the applicant's mitigation measures would be sufficient to avoid AEoI. The RSPB [REP5-203] was satisfied subject to NE's concerns being alleviated. NE's outstanding concerns [REP3A-028], [REP5-199] related to ensuring it was consulted on the DFMP, which the applicant had committed to. KWT [REP5-196] noted that measures reflected standard industry practice but considered information was too high level without clear triggers or response procedures. It requested additional commitments to ensure AEoI could be excluded. The applicant [REP6-106] responded that consultation with KWT on the DFMP would allow for review of measures that KWT think would be required.

Changes to marine water quality (drilling fluids) during construction

4.2.29 The HRA Report [REP7-119] identified mitigation to address the risk of discharge of drilling fluids at breakout locations during HDD installation,

which could result in LSE to the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site from changes in marine water quality.

4.2.30 The applicant's proposed mitigation measures to manage frac out through a HDD LMS and DFMP, and the comments of IPs, as described above under 'Pollution (terrestrial – changes in water quality) during construction' are also relevant to this LSE impact pathway, and the management of drilling fluids.

4.2.31 In addition, the ExA considers the following matter to have been resolved during examination in respect of managing drilling fluid in the marine environment:

- The oOCEMP (LVS05, [REP7-127]) and REAC [REP7-359] state that avoidance measures would include use of biodegradable drilling fluids (pose little or no risk (PLONOR) substances) where practicable. The MMO (AP71, [REP5-175]) advised that a DML condition could be included to explicitly include the Oslo and Paris Conventions (OSPAR) PLONOR list. Condition 4(1)(k)(iii) of the dDML in schedule 16 of the dDCO [REP7-002]) requires a chemical risk assessment to be submitted and approved by the MMO for any chemicals used that have a pathway to the marine environment except where these are present on the OSPAR PLONOR list or there are measures in place to prevent release.

ExA's consideration

4.2.32 On the basis of the above information, including measures secured by the rDCO for approval of the relevant planning authority in consultation with the SNCB and commitments in the oCEMP, oOCEMP and oCSIP the ExA is satisfied that there would be no AEoI of the Sandwich Bay SAC, the Thanet Coast SAC and the TCSB SPA and Ramsar site from changes in water quality due to frac out.

4.2.33 The ExA is satisfied that although NE was unable to comment on the suggested intertidal works methodology and mitigation plan in schedule 16, condition 4(1) of the dDCO, its insertion is consistent with NE's requirements.

4.2.34 The ExA has proposed that REAC [REP7-359] commitment B67 is amended to include reference to saltmarsh monitoring on the route of the proposed trenchless crossing alignment in section 3.14 of this recommendation report.

B.4.3 ANNEX I HABITAT SACS

MITIGATION

4.3.1 Mitigation measures applicable to the assessment of effects on more than one site with Annex I habitat features are detailed in tables B.2 and B.3.

Table B.2 Mitigation measures for SACs with Annex 1 habitats within the oCEMP [REP7-129] and oOCEMP [REP7-127] (secured through dDCO requirements 6(1)(a) and dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO [REP7-002])

LSE pathway	Mitigation measure	Commitment number	Additional securing mechanism
Pollution (terrestrial changes in water quality from frac out)	Use of low-pressure hand pumps to manage frac-out	B61	n/a
	Measures to minimise frac-out	B09	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO
	Production of a HDD LMS	B59	dDML condition 4(1)(a)(x) in schedule 16 of the dDCO
	Production of a DFMP	GH10 and B59	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO
	Management of drilling fluid	LVS05	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO
Pollution (terrestrial – changes in water quality - from the use of the hoverport	Monitoring of the hoverport condition during construction in consultation with the EA, NE, KWT and TDC for approval by TDC	W37	n/a
Changes to marine water quality (drilling fluids)	Use of drilling fluids from the OSPAR list of PLONOR substances	LVS05	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO

LSE pathway	Mitigation measure	Commitment number	Additional securing mechanism
			dDML Condition 4(1)(k)(iii) in schedule 16 of the dDCO
Introduction and spread of invasive non-native species (INNS) via cable protection	Implementation of an INNS Management Plan and Marine Biosecurity Plan	BE01	Outline Offshore INNS Management Plan oOIMP [REP5-078] (secured through dDML condition 4(1)(d) in schedule 16 of the dDCO) Marine Biosecurity Plan [REP4-071] (secured through dDML condition 4(1)(e) in schedule 16 of the dDCO)
	Use of suitably sourced and cleaned material in the marine environment, including for rock protection	BE03	

Table B.3: Mitigation measures for Annex I habitats SACs not within the oCEMP or oOCEMP

LSE pathway	Mitigation measure description	Relevant control document	Securing mechanism
Pollution (terrestrial changes in water quality from frac out)	Intertidal works methodology and mitigation plan for Pegwell Bay	n/a	dDML condition 4(1)(a)(iv) in schedule 16 of the dDCO
Pollution (terrestrial – changes in water quality - from the use of the hoverport	Pre-construction survey of hoverport hardstanding	oCTMTP - Kent [REP7-123]	dDCO requirement 6(1)(c)
	Pre-construction report detailing hoverport condition survey results, proposals for vehicle	n/a	dDCO requirement 22

LSE pathway	Mitigation measure description	Relevant control document	Securing mechanism
	routing and hoverport condition monitoring programme with trigger levels for action		

ALDE-ORE AND BUTLEY ESTUARIES SAC

4.3.2 The HRA Report screens out all LSE pathways for the Alde-Ore and Butley Estuaries SAC, however as noted in section B.2.2 of this appendix, on a precautionary basis the ExA considers there to be a potential LSE from:

- pollution (terrestrial – changes in water quality) for all qualifying features

UNRESOLVED MATTERS

Pollution (terrestrial – changes in water quality)

4.3.3 NE advised [REP7-277] that it could not rule out AEoI of the Alde-Ore and Butley Estuaries SAC from effects on water quality from a proposed permanent outfall serving the Saxmundham converter station on the basis that an assessment of impacts had not been included in the HRA Report. It requested a commitment in the REAC detailing the chemical and biological parameters that discharged water would meet, and confirmation of how this would be monitored through the project's lifetime [REP7-269], [REP7-277] (A23, [REP7-364]).

4.3.4 NE's advice also applied to the AOE SPA and Ramsar site.

EXA'S CONSIDERATION OF ADVERSE EFFECTS TO THE ALDE-ORE AND BUTLEY ESTUARIES SAC

4.3.5 The ExA is satisfied with the applicant's proposed drainage mitigation measures as set out in the REAC [REP7-359] and drainage strategy [REP7-148]. The ExA notes NE's comments regarding the need for surface water monitoring but considers that since the runoff would comprise surface water runoff only, there is no need for specific water quality monitoring. On the basis that clean surface water is due to be discharged, the ExA considers that an AEoI of the Alde-Ore and Butley Estuaries SAC can be ruled out.

MARGATE AND LONG SANDS SAC

4.3.6 The HRA Report [REP7-11] assesses the following LSE pathway for all qualifying features of the Margate and Long Sands SAC:

- temporary increase in SSC and sediment deposition leading to increased turbidity and smothering effects (paragraphs 7.3.1 to 7.3.8, 7.3.93 and section 8.3)

RESOLVED MATTERS

4.3.7 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the Margate and Long Sands SAC are as follows:

- NE (E31, [REP3A-028]), [REP3-118] raised general concerns about whether the WCS for increases in SSC and sediment deposition was based on the most recent construction information but clarified in response to the ExQ2BE15 [REP5-199] that there was no impact pathway to the Margate and Long Sands SAC.

4.3.8 At DL7, NE [REP7-277] confirmed it agreed with the applicant's conclusions of no AEoI of the site.

UNRESOLVED MATTERS

4.3.9 No unresolved matters pertaining to the Margate and Long Sands SAC remained at the close of examination.

EXA'S CONSIDERATION OF ADVERSE EFFECTS TO THE MARGATE AND LONG SANDS SAC

4.3.10 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to achieve favourable conservation status through maintaining or restoring the extent, distribution, structure and function of natural habitats, and the supporting processes on which the habitats rely. It is satisfied that there would no AEoI of the Margate and Long Sands SAC from the proposed development alone or in combination with other plans or projects.

SANDWICH BAY SAC

4.3.11 The HRA Report [REP7-119] assesses the following LSE pathways for all qualifying features of the Sandwich Bay SAC:

- changes to marine water quality during cable installation and laying from use of drilling fluids (paragraphs 7.3.9 to 7.3.12 and 7.3.93)
- introduction and spread of INNS via the addition of cable protection (paragraphs 7.3.81 to 7.3.83)
- pollution (terrestrial – changes in water quality) – from frac out (paragraphs 7.4.11 to 7.4.14 and 7.4.35)

4.3.12 As detailed in section B.2.2 above, the ExA considers there to be a LSE to all qualifying features of the Sandwich Bay SAC from pollution (terrestrial – changes in water quality) due to use of the hoverport site at the Kent landfall.

RESOLVED MATTERS

4.3.13 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the Sandwich Bay SAC are as follows:

- Introduction and spread of INNS via the addition of cable protection:
    - Responding to NE's concerns [REP3-118], [REP3A-025] (appendix E new issue point 39, [REP4-197]), the applicant revised the oOIMP [REP5-078] to include reference to INNS measures at trenchless crossing exits, and confirmation that a moonpool or prefabricated cofferdam would be compliant with the OIMP and in place for a short period (4 months), which would not be sufficient for INNS to establish and spread.
- Pollution (terrestrial – changes in water quality) – from frac out:
    - The applicant made updates to frac-out management in response to the NE's concerns as described in section 4.2 of this appendix under 'Mitigation'.
    - Confirmation in responses to ExQ2ECOL6 from the applicant [REP5-135] and NE [REP5-199] that a separate consenting or licensing process (with a separate HRA) would be required in respect of any intertidal ground investigation to inform risk management of frac out from drilling activity.

4.3.14 AT DL7, NE [REP7-277] confirmed its advice was that AEoI of the Sandwich Bay SAC could be excluded.

UNRESOLVED MATTERS

Pollution (terrestrial – changes in water quality)

Frac out

4.3.15 The HRA Report [REP7-119] concludes no AEoI based on mitigation that would be implemented to manage the risk of frac out, as described at section 4.2 under 'Mitigation.'

4.3.16 Whilst NE [REP7-277] advised that AEoI could be excluded, KWT [REP5-196] did not consider measures were sufficiently detailed to give confidence that there would be no AEoI.

Use of the hoverport

4.3.17 As detailed in paragraphs 4.2.9 to 4.2.15 above. NE [REP7-277] advised that it agreed AEoI could be excluded but other IPs retained concerns.

Changes to marine water quality during cable installation cable lay from use of drilling fluids

4.3.18 The Sandwich Bay SAC is vulnerable to changes in water quality and there is potential for up to 40m^3 of drilling fluid to be discharged at the Kent landfall [REP7-119]. The HRA Report concludes no AEoI as the volume released would be small, regular tidal movement would disperse and dilute the drilling fluid, and as there are commitments to select biodegradable drilling fluid (PLONOR substances) where practicable as described at section 4.2 under 'Mitigation'.

4.3.19 Whilst NE [REP7-277] advised that AEoI could be excluded, KWT [REP5-196] did not consider measures were sufficiently detailed to give confidence that there would be no AEoI.

EXA'S CONSIDERATION OF ADVERSE EFFECTS TO THE SANDWICH BAY SAC

4.3.20 Whilst KWT's position that there is lack of detail in the applicant's proposed mitigation is acknowledged, the ExA notes that KWT did not specify what further evidence it required to have confidence there would be no AEoI. It also notes the advice of NE as ANCB that AEoI of the Sandwich Bay SAC can be excluded. The applicant has committed to mitigation measures, which would be finalised through consultation with NE and KWT amongst others prior to implementation.

4.3.21 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to achieve favourable conservation status through maintaining or restoring the extent, distribution, structure and function of natural habitats, and the supporting processes on which the habitats rely. It is satisfied that there would be no AEoI of the Sandwich Bay SAC from the proposed development alone or in-combination with other plans or projects.

THANET COAST SAC

4.3.22 The HRA Report [REP7-119] assesses the following LSE pathways for all qualifying features of the Thanet Coast SAC unless otherwise specified:

- temporary increase in SSC (reefs only) and sediment deposition leading to increased turbidity and smothering effects (paragraphs 7.3.1 to 7.3.8, 7.3.93 and section 8.3)
- changes to marine water quality during cable installation cable lay from use of drilling fluids (paragraphs 7.3.9 to 7.3.12 and 7.3.93)
- introduction and spread of INNS via the addition of cable protection (paragraphs 7.3.81 to 7.3.83)

4.3.23 As detailed in section B.2.2 above, the ExA considers there to be a LSE to all qualifying features of the Thanet Coast SAC from pollution (terrestrial – changes in water quality) due to use of the hoverport site at the Kent landfall.

RESOLVED MATTERS

4.3.24 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the Thanet Coast SAC are as follows:

- Temporary increase in SSC (reefs only) and sediment deposition leading to increased turbidity and smothering effects:
    - NE (E35, [RR-3920]) advised that consideration be given to biotopes that are components of the SAC qualifying features. Marine Chapter 2, Benthic Ecology [REP7-099] confirms that cave habitats are not

sensitive to changes in SSC from cable installation, and was updated to assign medium sensitivity to reef biotopes on a precautionary basis. NE [REP5-218] and responding to ExQ2BE3 in [REP5-199] confirmed this matter as resolved as it related to assignment of sensitivity.
    - NE (E26, E41 and E45, [REP7-364]) considered that the assessment lacked quantification. The HRA Report [REP7-119] states that long-term increase in SSC above 250mg/l can impair growth of filter-feeding organisms but SSC increase would be short-term and temporary (up to 300mg/l within the first 24 hours reducing to up to 100mg/l). It refers to studies showing that epifauna associated with the SAC have the ability to tolerate temporary sediment deposition up to 2cm, which is greater than the 0.5mm deposition thickness predicted for the proposed development. NE [REP7-273] agreed deposition of 0.5mm would have a negligible smothering impact for reef and did not dispute the applicant's position on sea caves.
    - In response to NE's [RR-3290] concerns about construction effects from HDD exit pits or cofferdam installation, the applicant made updates, confirming [REP4-241] that the Landfall Sediment Modelling Report [PDA-038] showed any increase in SSC would be similar to natural disturbance in storm conditions. It further modelled SSC and changes in tidal flow conditions around the cofferdam in Additional Sediment Dispersion Modelling – Technical Note [REP6-120], which demonstrates a localised and minor effect in Pegwell Bay with wider sediment dispersion at levels below 1mg/l. NE responding to ExQ2PE4 in [REP5-199] indicated that its outstanding concerns did not relate to the Thanet Coast SAC. It (table 2, [REP7-277]) agreed no AEoI based on modelling in [REP6-120].

- Introduction and spread of INNS via the addition of cable protection:
    - As discussed under the Sandwich Bay SAC at paragraph 4.3.13.

UNRESOLVED MATTERS

Pollution (terrestrial - changes in water quality)

Use of the hoverport

4.3.25 As detailed in paragraphs 4.2.9 to 4.2.15 above. NE [REP7-277] advised that it agreed AEoI could be excluded but other IPs retained concerns.

Changes to marine water quality during cable installation cable lay from use of drilling fluids

4.3.26 The matters described in relation to the Sandwich Bay SAC at paragraph 4.3.20 also apply to the Thanet Coast SAC. NE (table 2, [REP7-277]) did not comment specifically on this LSE impact pathway but agreed that AEoI could be excluded. KWT [REP6-240] did not agree the AEoI can be excluded and stated that the applicant had not applied the mitigation hierarchy in respect of this LSE impact pathway.

EXA'S CONSIDERATION OF ADVERSE EFFECTS TO THE THANET COAST SAC

4.3.27 Whilst KWT's position on the mitigation hierarchy is acknowledged, the ExA notes the advice of NE as ANCB that AEoI of the Thanet Coast SAC can be excluded, and that using the hoverport would avoid worse impacts from trying to access the intertidal area from another location. The ExA is satisfied that the applicant has committed to mitigation measures which would be finalised through consultation with NE and KWT amongst others prior to implementation.

4.3.28 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to achieve favourable conservation status through maintaining or restoring the extent, distribution, structure and function of natural habitats, and the supporting processes on which the habitats rely. It is satisfied that there would be no AEoI of the Thanet Coast SAC from the proposed development alone or in-combination with other plans or projects.

B.4.4 MARINE MAMMAL SACS

OVERARCHING RESOLVED MATTERS

4.4.1 Key matters relating to the assessment of underwater sound impacts, which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity are as follows:

- NE (F28 and F30, [RR-3920]) and the JNCC [RR-2635] raised concerns that harbour porpoise should not be used as a proxy for pinnipeds. The applicant [REP2-014] subsequently confirmed that the assessment is based on separate underwater noise modelling for seals and harbour porpoise. NE responding to ExQ15MM1 [REP4-196] confirmed the matter as resolved. The JNCC did not comment further on the matter.
- NE (F29, [RR-3920]) and the JNCC [RR-2635], [REP1-210] initially advised that the sound exposure level (SEL) (SEL_{cum}) metric from the noise modelling should also be used to inform impacts to designated sites. Further to the applicant's justification for the use of sound pressure level (SPL_{peak}) [REP1-112], [REP2-014], NE responding to ExQ15MM1 [REP4-196] confirmed the matter as resolved. The JNCC did not comment further on the matter.
- The applicant [REP1-112], [REP2-014], the JNCC [REP1-210] and NE [REP4-196] agreed that the standard JNCC measures for minimisation of injury from underwater sound generated from geophysical surveys would be employed. Mitigation measures are included in section 1.8 of the Outline Marine Mammal Management Plan (oMMMP) [REP7-125].

BERWICKSHIRE AND NORTH NORTHUMBERLAND COAST SAC, HUMBER ESTUARY SAC AND THE WASH AND NORTH NORFOLK COAST SAC

4.4.2 The Berwickshire and North Northumberland Coast SAC, the Humber Estuary SAC and The Wash and North Norfolk Coast SAC are all located more than 100km from the proposed development. The applicant's description of the sites is presented in sections 3.11, 3.112 and 3.16 of the HRA Report [REP7-119], respectively. The following LSE pathways are assessed for the grey seal qualifying feature of the Berwickshire and North Northumberland Coast SAC and the Humber Estuary SAC, and the harbour seal qualifying feature of The Wash and North Norfolk Coast SAC:

- underwater sound impacts (paragraphs 7.3.13 to 7.3.36 and 7.3.93)
- vessel collision risk (paragraphs 7.3.37 to 7.3.45 and 7.3.93)
- airborne sounds and visual disturbance (paragraphs 7.3.63 to 7.3.65 and 7.3.93)

4.4.3 No further matters to the overarching underwater sound issues detailed above were raised and subsequently resolved in relation to the Berwickshire and the North Northumberland Coast SAC, the Humber Estuary SAC and The Wash and North Norfolk Coast SAC.

4.4.4 At DL7, NE [REP7-277] confirmed it agreed with the applicant's conclusions of no AEoI of these sites. However, in [REP7-274] it raised concerns about risk of disturbance to seal colonies from emergency use of hovercraft, included as commitment GG45 in the oCEMP [REP7-129] and oOCEMP [REP7-127]. It did not attribute impacts to any specific designated site and there was insufficient time in the examination to consider this matter further.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE BERWICKSHIRE AND NORTH NORTHUMBERLAND COAST SAC, THE HUMBER ESTUARY SAC AND THE WASH AND NORTH NORFOLK COAST SAC

4.4.5 The ExA is content that the overarching concerns regarding underwater sound impacts have been resolved. NE [REP7-277] confirmed it agreed with the applicant's conclusions of no AEoI of these sites. The ExA considers that NE's concerns regarding disturbance from hovercraft use are therefore not a HRA concern. Sites designated for harbour or grey seals are between 110km and 412km from the proposed development and therefore the ExA considers the number of seals from these sites in Pegwell Bay would likely be minimal and that an AEoI from any temporary and short-term emergency use of hovercrafts can be excluded. However, should the Secretary of State determine a need for greater certainty of this, the ExA recommends that the Secretary of State consults NE to seek confirmation that disturbance from hovercraft use is not a HRA concern for European sites designated for marine mammals.

4.4.6 The Berwickshire and North Northumberland Coast SAC is in English and Scottish waters. As noted previously, NatureScot did not participate in the

examination and, therefore, the ExA does not have its views on impacts to this European site for which it is responsible (jointly with NE).

4.4.7 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to maintain the favourable conservation status through maintaining or restoring the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the European sites from the proposed development alone or in combination with other plans or projects.

SNS SAC

4.4.8 The offshore cable would pass through the southern region of the SNS SAC. The applicant's description of the site is presented in section 3.14 of the HRA Report [REP7-119]. The following LSE pathways are assessed for the harbour porpoise qualifying feature:

- underwater sound impacts (paragraphs 7.3.13 to 7.3.36 and 7.3.93)
- vessel collision risk (paragraphs 7.3.37 to 7.3.45 and 7.3.93)
- effects of EMF emissions (paragraphs 7.3.71 to 7.3.75 and 7.3.93)

MITIGATION MEASURES

4.4.9 The applicant's assessment of underwater sound impacts takes into account the mitigation measures in table B.4 below.

Table B.4 Mitigation measures for marine mammal SACs

Mitigation measure	Relevant control document	Securing mechanism
MMMP[1]	oMMMP [REP7-125]	dDML conditions 4(1)(c) and 4(4) in schedule 16 of the dDCO
Seasonal restriction for offshore cable burial and landfall installation activities	dDCO [REP7-002]	dDML conditions 11(1) and 11(2) in schedule 16 of the dDCO
	RTD protocol [REP7-142], which the ExA assumes is the outline RTD (oRTD) protocol set out in schedule 16,	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO

[1] A plan to specify the overarching principles and detailed measures to minimise as far as reasonably practicable and mitigate the effects of the construction activities associated with the proposed development on marine mammals. It includes mitigation measures MM01 to MM04, GM03, FSF01, LVS02 and LVS05 detailed in the oOCEMP [REP7-127].

Mitigation measure	Relevant control document	Securing mechanism
	condition 4 of the dDCO [REP7-002] and is referred to as such hereafter.	dDML condition 11(4) in schedule 16 of the dDCO
Adherence to JNCC guidelines for minimisation of injury from underwater sound for sub-bottom profiling (SBP) activities	MM01 of the oOCEMP [REP7-127]	dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO
	oMMMP [REP7-125]	dDML conditions 4(1)(c) and 4(4) in schedule 16 of the dDCO
Commitment to participating in the Development Co-ordination Forum (DCF) to manage in-combination effects	MM03 of the oOCEMP [REP7-127]	dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO
	oMMMP [REP7-125]	dDML conditions 4(1)(c) and 4(4) in schedule 16 of the dDCO
Commitment to undertake survey activities involving SBP during summer, where practicable	MM04 of the oOCEMP [REP7-127]	dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO
	oMMMP [REP7-125]	dDML conditions 4(1)(c) and 4(4) in schedule 16 of the dDCO

4.4.10 No specific measures for other LSE pathways are referred to in the HRA Report [REP7-119].

RESOLVED MATTERS

4.4.11 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the SNS SAC are as follows:

- Baseline:
    - NE (F2, F8 and F12, [RR-3920]) and the JNCC [REP1-210] raised concerns regarding the adequacy of the harbour porpoise baseline. The applicant subsequently assessed impacts against the winter density of harbour porpoise, using Winter Small Cetaceans in European Atlantic waters and the North Sea (SCANS) 2025 data

(paragraph 7.3.21, [REP7-119]). NE responding to ExQ2MM3 [REP5-199] confirmed the matter of baseline characterisation to be resolved. The JNCC did not comment further on the matter.

- Underwater sound impacts (project alone impacts):
  - NE requested further details on the applicant's noise modelling (F15, [RR-3920]), [REP4-197]. However, it subsequently confirmed responding to ExQ2MM4 [REP5-199] that the effective deterrent range (EDR) approach used in the HRA Report [REP7-119] is the most appropriate method for designated sites.
  - The JNCC [RR-2635], [REP1-210] initially considered there to be insufficient information to support the conclusion of no AEoI due to disturbance to harbour porpoise from underwater noise. The applicant subsequently clarified that with a 3km EDR, 349 harbour porpoise could potentially be disturbed by underwater noise during construction, within 1.14% of the SNS SAC (paragraph 7.3.21, [REP7-119]) ExQ2MM8 in [REP5-135]. The JNCC did not raise further concerns regarding the impact of the proposed development alone.
  - NE responding to ExQ2MM3 [REP5-199] sought clarification as to whether the disturbance impact area reported is for one day or across a season. The applicant revised the HRA Report (paragraphs 7.3.23 to 7.3.30, [REP7-119]) to provide an assessment of disturbance impacts against the daily and seasonal JNCC disturbance thresholds.
  - NE responding to ExQ2MM3 [REP5-199] commented that the assessment did not include cable laying activities themselves. The applicant revised the HRA Report (paragraph 7.3.28, [REP7-119]) to confirm that cable laying activities are considered unlikely to generate sufficient sound source levels for auditory injury (including permanent threshold shift) in marine mammals and that the potential for temporary threshold shift is only likely in very close proximity to the source. NE did not comment on this matter further. Should the Secretary of State determine a need for greater certainty of NE's views on the matter, the ExA recommends that the Secretary of State consults NE.

- Vessel collision risk:
  - The JNCC [RR-2635], [REP1-210] queried how slow vessel speeds would be enforced. The applicant [REP1-112] confirmed that slow vessel speeds would be ensured through compliance with the International Regulations for Preventing Collisions at Sea 1972 (International Maritime Organisation, 1972). The JNCC (2MM7, [REP5-194], [REP6-239] acknowledged the explanation.

- Mitigation:
  - The applicant revised the oMMMP [REP7-125] to reflect comments from NE (F20, [RR-3920]) and the JNCC [RR-2635], [REP1-210]. NE (F20, [REP7-364]) confirmed the matter to be resolved. The JNCC did not comment further on the matter.

UNRESOLVED MATTERS

Underwater noise

In-combination effects

4.4.12 NE (F32, [RR-3920]), [REP3A-025], [REP5-219] RIESQ13 in [REP6-251], [REP6-246] and the JNCC [RR-2635], [REP1-210], [REP3-090] RIESQ13 in [REP6-239] raised several concerns regarding a lack of detail in the in-combination assessment. The applicant provided an in-combination assessment of the impact of underwater sound from all potential projects generating underwater sound in the SNS SAC (paragraphs 8.3.81 to 8.3.91, [REP7-119]). It concludes that, in combination with other plans or projects, the daily disturbance threshold would be exceeded when the SBP works are taking place; but that the seasonal threshold would not be exceeded. It notes that the assessment is based on a precautionary unmitigated assessment of piling at the OWFs and that the contribution from the proposed development is negligible and would be for 6 days only. The applicant has committed to participating in the DCF to manage in-combination effects and to undertake works where practicable in the summer period in the oOCEMP (MM03 and MM04, [REP7-127]). These measures are also summarised in the REAC [REP7-359]. It therefore concludes that the seasonal disturbance threshold would not be exceeded.

4.4.13 NE [REP7-274] explained that methodological concerns remained. However, in a joint position statement with the JNCC [REP7-274], it agreed that further to the applicant's commitment to participate in the DCF, there would be no AEoI of the SNS SAC. It proposed text for a condition which is included in the oOCEMP (table 1.14 [REP7-127]) and the oMMMP [REP7-125], however is not included as a separate condition within the dDML.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE SNS SAC

4.4.14 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objectives of the site, which are to maintain favourable conservation status through ensuring harbour porpoise is a viable component and there is no significant disturbance of it, and maintaining the condition of supporting habitat and processes to maintain prey availability for harbour porpoise. It is satisfied that there would be no AEoI of the SNS SAC from the proposed development alone or in-combination with other plans or projects. The ExA considers that the commitment to participate in the DCF is adequately secured in the oOCEMP [REP7-127] and oMMMP [REP7-125] and therefore a separate condition within the DML is not required.

B.4.5 TERRESTRIAL ORNITHOLOGY SPA AND RAMSAR SITES

MITIGATION MEASURES

4.5.1 Mitigation measures applicable to the assessment of effects on more than one site with terrestrial ornithological features are detailed in table B.5 below. Site specific mitigation measures are detailed under relevant site headings.

Table B.5 Mitigation measures for terrestrial ornithology SPA and Ramsar sites within the oCEMP [REP7-129] (secured through dDCO requirements 6(1)(a) and 6(2))

LSE pathway	Mitigation measure	Commitment number(s)	Relevant sites
Disturbance (noise, visual and lighting)	Use of best practicable means to reduce noise during construction	NV01 to NV05	AOE SPA and Ramsar site Minsmere-Walberswick SPA and Ramsar site Sandlings SPA TCSB SPA and Ramsar site
	Low level lighting	GG21	
	Construction compound lighting restriction	B38	
Collision risk	Bird diverters	B55	Stodmarsh SPA and Ramsar Site TCSB SPA and Ramsar site

OVERACHING RESOLVED MATTERS

EAST SUFFOLK COUNCIL CONCERNS REGARDING BASELINE SURVEYS

4.5.2 East Suffolk Council (ESC) [RR-1420] highlighted a generic concern about bird survey coverage, noting these would have implications for both the HRA and the ES. The applicant [REP1A-043] considered it had good coverage of the site and a good knowledge of the ornithological interest of the area. ESC [REP5-184] subsequently reported this matter as closed, stating it did not consider that further surveys would change the assessment outcome.

EXA'S CONSIDERATION

4.5.3 The ExA has considered representations regarding bird survey coverage, the applicant's ES and bird survey appendices and is satisfied that the applicant's survey is consistent with relevant standards and guidance.

AOE SPA AND RAMSAR SITE

4.5.4 The HRA Report [REP7-119]) assesses the following LSE pathways for the AOE SPA and Ramsar site:

- disturbance (noise and visual) from onshore works (paragraphs 7.2.21, 7.2.26 and 7.3.93) for marsh harrier and curlew of the SPA and Ramsar site

- airborne sounds and visual disturbance from offshore works (paragraphs 7.3.55 to 7.3.60 and 7.3.93) for:
    - lesser black-backed gull, sandwich tern and little tern of the SPA
    - lesser black-backed gull of the Ramsar site
- indirect effects through impacts to prey species (paragraphs 7.3.66 to 7.3.80 and 7.3.93) for:
    - lesser black-backed gull, sandwich tern and little tern of the SPA
    - lesser black-backed gull of the Ramsar site

4.5.5 As noted in section B.2.2 of this appendix, on a precautionary basis the ExA also considers there to be a potential LSE from:

- pollution (terrestrial – changes in water quality) for all qualifying features

RESOLVED MATTERS

4.5.6 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity of the AOE SPA and Ramsar site are as follows:

- Disturbance (noise and visual) from onshore works (also applicable to the Minsmere-Walberswick SPA and Ramsar site):
    - The RSPB [REP1-158] raised concerns regarding marsh harriers utilising the north of the RSPB North Warren Reserve; specifically of the impacts of construction noise on auditory cues used by marsh harrier to detect prey. It did not raise the matter further.

4.5.7 The RSPB confirms in its SoCG [REP7-054], that AEoI for the site can be excluded as a result of the proposed development alone or in-combination.

UNRESOLVED MATTERS

Disturbance (noise and visual) from onshore works

Marsh harrier (also applicable to the Minsmere-Walberswick SPA and Ramsar site)

4.5.8 SEAS [RR-5210], [REP2-115], [REP4-154] noted that marsh harriers can forage up to 15km from their nests, placing the proposed development within potential foraging distance of Alde-Ore Estuary SPA and the Minsmere-Walberswick SPA. It considered the species could be disturbed during the breeding season whilst using FLL. It acknowledged that marsh harriers had been recorded during breeding bird surveys but noted that the species is not mentioned in the Suffolk section of the HRA Report [REP7-119]. It considered the baseline survey data for the Suffolk onshore scheme to be deficient and queried why vantage point surveys were not undertaken.

4.5.9 The applicant [REP1A-043] responded that marsh harrier had been recorded feeding in the wetlands of the RSPB North Warren Reserve, which would be crossed by trenchless methods. It considered there to be limited suitable

farmland within 15km of the nest sites and that foraging birds of prey are at low risk of disturbance compared to birds on the nest or roosting.

4.5.10 SEAS [REP6-256F] maintained that the applicant had overlooked impacts on FLL for marsh harrier and that the lack of survey effort for marsh harrier meant that the evidential requirement for a competent authority to ascertain, beyond reasonable scientific doubt, that a project will not adversely affect the integrity of European designated sites had not been met.

Pollution (terrestrial – changes in water quality)

4.5.11 See paragraphs 4.3.3 to 4.3.4 of this appendix. NE [REP7-277] stated that it could not rule out AEoI for the AOE SPA and Ramsar site.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE AOE SPA AND RAMSAR SITE

4.5.12 As noted in paragraph 4.5.3 of this appendix, the ExA is content with the applicant's survey effort for marsh harrier and that this is adequate to inform the assessment of effects.

4.5.13 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the European sites from the proposed development alone or in-combination with other plans or projects.

MINSMERE-WALBERSWICK SPA AND RAMSAR SITE

4.5.14 The HRA Report [REP7-119] assesses the following LSE pathways for the Minsmere-Walberswick SPA and Ramsar site:

- disturbance (noise and visual) from onshore works (paragraphs 7.2.21 and 7.2.27) for non-breeding birds and breeding marsh harrier of the SPA and Ramsar site
- airborne sounds and visual disturbance from offshore works (paragraphs 7.3.55 to 7.3.60 and 7.3.93) for little tern of the SPA
- indirect effects through impacts to prey species (paragraphs 7.3.65 to 7.3.80 and 7.3.93) for little tern of the SPA

RESOLVED MATTERS

4.5.15 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the Minsmere-Walberswick SPA and Ramsar site are as follows:

- Disturbance (noise and visual) from onshore works
    - See paragraph 4.5.6 regarding the RSPB's resolved concerns about impacts on the auditory cues used by marsh harrier to detect prey.

- The RSPB [REP1-158] noted that white-fronted goose use FLL within the RSPB North Warren Reserve and raised concerns regarding disturbance from the proposed construction compound. The applicant [REP2-034] confirmed the A-weighted equivalent continuous sound level (L_{Aeq}) and the highest A-weighted sound level (for impulsive sound) (L_{Amax}) 60 decibel (dB) line would not extend into the reserve and has committed to bird monitoring and adaptive measures during trenchless compound set up, demobilisation, and drilling in the REAC (B23, [REP7-359]) with locations to be agreed with the RSPB. The measure is also referenced in the Suffolk Outline Landscape and Ecological Management Plan (oLEMP) - Suffolk [REP7-140]. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- The RSPB [REP1-158] raised concerns about disturbance to white-fronted geese winter commuting flights in combination with Sizewell C. The SoCG with the RSPB [REP7-054] confirms the matter as resolved further to the additional noise modelling (appendix B, [REP6-112]).
- The RSPB [REP1-158] raised concerns about disturbance from construction noise and lighting at dawn, dusk and during the night. The applicant [REP2-034] explained that the 60dB threshold agreed with NE would apply whenever works were undertaken and is not time restricted. It committed to avoiding direct illumination of construction compound boundary features in the oCEMP (B38, [REP7-129]) and provided a lighting plan for Suffolk compound (appendix C, [REP6-112]). The SoCG with the RSPB [REP7-054] confirms the matter as resolved.

4.5.16 At DL7, NE [REP7-277] confirmed it agreed with the applicant's conclusions of no AEoI of the site.

4.5.17 The RSPB confirms in its SoCG [REP7-054], that AEoI for the site can be excluded as a result of the proposed development alone or in-combination.

UNRESOLVED MATTERS

Disturbance (noise and visual) from onshore works

Marsh harrier

4.5.18 See paragraphs 4.5.8 to 4.5.10 above.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE MINSMERE-WALBERSWICK SPA AND RAMSAR SITE

4.5.19 The ExA has considered the assessment provided within the HRA Report [REP7-119], the information above and the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the European sites from the proposed development alone or in-combination with other plans or projects.

SANDLINGS SPA

4.5.20 The HRA Report [REP7-119] assesses the following LSE pathways for nightjar and woodlark of the Sandlings SPA:

- air quality (dust only) (paragraphs 7.2.1 to 7.2.3 and 7.2.27)
- loss of FLL (paragraphs 7.2.4 to 7.2.10 and 7.2.27)
- disturbance (noise and visual) from onshore works (paragraphs 7.2.11 to 7.2.25 and 7.2.27)

MITIGATION MEASURES

4.5.21 Site specific mitigation measures for the Sandlings SPA are detailed in table B.6.

Table B.6 Mitigation measures for the Sandlings SPA

LSE pathway	Mitigation measure description	Relevant control document	Securing mechanism
Disturbance (noise, visual and lighting)	3m high noise barrier at the Suffolk construction compound	B23 of the REAC [REP7-359]	dDCO requirement 5
	Noise monitoring adjacent to Sandling SPA and implementation of further mitigation measures if necessary		
	Measures to minimise disturbance from unexploded ordnance (UXO) clearance	GG39 of the oCEMP [REP7-129]	dDCO requirements 6(1)(a) and 6(2)
	Low level lighting	GG21 of the oCEMP [REP7-129]	
	Seasonal restriction for construction compound set-up and demobilisation, outside of nesting season	B27 of the oCEMP [REP7-129]	

RESOLVED MATTERS

4.5.22 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the Sandlings SPA are as follows:

- Loss of FLL:

- There would be a temporary loss of nightjar and woodlark foraging habitat through the removal of acid grassland at the trenchless construction compound and sections of cable trench and haul road. NE [REP1-154], [REP6-242], [REP5-215] (A19, [REP5-222]), EXQ2ECOL11 in [REP5-199], [REP6-242] highlighted several concerns regarding the information presented by the applicant in relation to acid grassland enhancement. The applicant [REP2-034] explained that acid grassland enhancement is not proposed as mitigation for loss of FLL and is not relied upon as justification for the conclusion of no AEoI for the Sandlings SPA; however, any enhancement would have consequential benefits for woodlark and possibly nightjar. The applicant revised the HRA Report [REP7-119] to remove reference to the acid grassland enhancement and provide clarity that a total of 7.5 hectares (ha) of acid grassland would be temporarily lost for six months, being unavailable for a single nesting season. It states that acid grassland is for foraging, not nesting and that there is over 100ha of acid grassland within 2km of the SPA. It concludes that the area that would be affected is therefore less than 5% of the available foraging and nesting habitat. It states that nightjars have broader foraging requirements than woodlark and were not recorded using habitat outside the SPA in surveys, therefore there would be less of an impact on the former than the latter. NE [REP7-269] subsequently agreed there would be no AEoI of the Sandlings SPA from the loss of foraging habitat for woodlark and nightjar within FLL.
    - The applicant updated the oLEMP - Kent [REP7-141] to include recommendations from the RSPB [REP1-158] regarding measures related to soil and topping of crops at the mitigation site.
    - The RSPB raised several concerns regarding the suitability of the FLL, in respect of how it was chosen, how it would function and the potential for disturbance [REP1-158] and regarding appropriate long-term management [REP1-158], ExQ2ECOL30 in [REP5-203]. However, the SoCG with the RSPB [REP7-054] records the mitigation for loss of FLL as an agreed matter.
    - NE [REP6-242] advised that cumulative onshore impacts between the proposed development and LionLink cannot be ruled out on the information available, noting that potential in-combination impacts on FLL had not been assessed. The applicant revised the HRA Report (section 7.2, [REP7-119]) to confirm LionLink would be more than 2km from Sandlings SPA. It concludes that there is no potential for in-combination effects on the SPA. NE did not comment on this matter at DL7, however as noted above, it agreed [REP7-269] there would be no AEoI of the Sandlings SPA from loss of foraging habitat for woodlark and nightjar within FLL.

- Disturbance (noise and visual) from onshore works:
    - Responding to the ExA's request for further information on the proposed noise and visual screen at the HDD trenchless compound, the applicant explained in ExQ1ECOL57 [REP3-069] that it would be

3m in height. It updated the REAC (B23, [REP7-359]) to commit to fencing of a minimum height of 3m at the trenchless compound.

- The RSPB [REP6-252] requested larger scale maps of noise contours where they overlap designated sites to aid identification of areas and species which may potentially be impacted by noise (including chronic noise – see below). The SoCG with the RSPB [REP7-054] confirms the matter as resolved further to mapping provided by the applicant (appendix B, [REP6-112]).
- The RSPB [REP1-158], [REP7-054] advised that chronic noise levels could affect densities and distribution of breeding birds and requested average noise levels from the continuous HDD drilling (planned during the breeding season). The applicant [REP2-034] explained that it had agreed a 60dB threshold for significant disturbance with NE and the RSPB, and that this threshold can be applied to L_{Aeq} (chronic noise) or L_{Amax} (peak maximum noise). It explained that L_{Amax} is always 5 to 15dB higher than the LA_{eq}. It confirmed that the 60dB L_{Amax} contour for HDD drilling did not extend into the RSPB North Warren Reserve. It further committed to bird monitoring within the reserve during trenchless compound set up, demobilisation, and drilling (with locations to be agreed with the RSPB) to inform any further mitigation (B23 of the REAC [REP7-359]). The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- The RSPB [REP1-158] noted that the noise modelling assumed a 10dB reduction from standard noise mitigation and that there were no monitoring proposals during construction. The applicant [REP2-034] confirmed that the 10dB reduction in noise levels applied in the applicant in the assessment arises from Annex B of BS 5228-1:2009+A1:2014 ‘Code of practice for noise and vibration control on construction and open sites – Part 1: Noise’. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- The RSPB [REP1-158] sought further detail on locations of noise and visual mitigation screening around the HDD construction compound. The applicant [REP2-034] explained that the precise positioning of plant and equipment had not been determined but would be in the Order Limits between the HDD compound and the SPA. Therefore, as a WCS the Order Limits around the HDD compound can be taken to be the fence location. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- The RSPB [REP1-158] sought confirmation of the transition joint bay (TJB) location. The applicant [REP2-034] confirmed it would be outside designated sites and that a WCS noise assessment of impacts on designated sites had been presented. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- The RSPB [REP1-158], [REP7-054] sought mapping of areas affected by visual disturbance from people and mobile infrastructure. The applicant [REP2-034], [REP7-054] did not consider mapping necessary given the existing treeline and the former railway embankment separating the Sandlings SPA from the HDD compound, as well as the commitment to visually screen the works. As noted

above, the applicant also revised the REAC (B23, [REP7-359]) committing to bird monitoring within the RSPB North Warren Reserve. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.

- In-combination effects:
    - NE [REP1-154] considered the HRA lacked detail on in-combination impacts with the approved application for the extension of Aldringham Golf Course. The applicant [REP2-034] confirmed these works had already been implemented.

UNRESOLVED MATTERS

Baseline

4.5.23 SEAS [RR-5210], [REP4-154], [REP6-256F] noted that the applicant had acknowledged limitations of its breeding bird surveys. Whilst not specifically referring to the HRA, SEAS considered the woodlark surveys were inadequate to inform a proper assessment as a large proportion of cable route was not surveyed. It also considered that the applicant's survey effort to determine the foraging areas of nightjars from the Sandlings SPA was not adequate as there had not been any use of automated acoustic detectors. It noted that nightjar routinely forage over the draft Order Limits and considered [REP6-256F] that nightjar surveys were insufficient.

4.5.24 The applicant did not respond to the suggestion of the use of automated acoustic detectors. However, it was confident it had good survey coverage and noted that NE did not raise any concerns in its relevant representation (tables 2.31 and 2.5.2, [REP1A-043]).

4.5.25 The ExA asked NE for any observations on the concerns raised by SEAS in the RIES [PD-022]. NE's response in RIESQ19, [REP6-251] did not respond directly to the question, noting that its comments relate to impacts of the project on the Sandlings SPA itself and impacts to FLL.

Disturbance (noise and visual) from onshore works

Light spill

4.5.26 NE [REP1-154], [REP5-215], RIESQ22 in [REP6-250] acknowledged that an assessment of construction lighting from the Suffolk HDD compound was provided in Suffolk Chapter 2, Ecology and Biodiversity [REP7-093] but did not consider it to be robust. It requested more evidence to demonstrate the mitigation would be sufficient.

4.5.27 The applicant updated the HRA Report (paragraph 7.2.18 to 7.2.20, [REP7-119]) with further details of lighting disturbance on the SPA and FLL and details of the mitigation measures. This confirms that the lighting plans for the compound (appendix C, [REP6-112]) show the 1 lux contour (equivalent to the illumination experienced at 1m from a candle) does not approach the Sandlings SPA. The applicant [REP7-173] could not agree to NE determining

lighting at the HDD compound as lighting requirements must be driven be engineering considerations.

4.5.28 The RSPB [REP1-158], [REP4-142], [REP6-252] agreed the proposed 3m fencing at the HDD compound would reduce noise and light spill and visual disturbance more generally, however, sought further information regarding visual disturbance from work at height, including clarity of any lighting that may be visible from the Sandlings SPA. The applicant [REP2-034], [REP7-054] explained that the use of cranes for the HDD landfall would typically be for up to a total of 8 days. It noted that equipment that could be visible above site fencing or screening would normally be the top of the HDD rig, the recycling system and excavator boom. Lighting on the booms would be directed at the working area in front of the excavator. Illumination above the height of the 3m barrier (B23, [REP7-359]) would be controlled through cowling and other appropriate measures in the oCEMP (B38 and GG21, [REP7-129]). Lighting would be monitored and modified if required by the Ecological Clerk of Works (ECoW). However, the matter is marked as not agreed in the RSPB SoCG [REP7-054], although the RSPB stated it would welcome consultation with the ECoW regarding additional controls.

4.5.29 At the close of examination, NE did not explicitly confirm if it considered there to be an AEoI from lighting. It did not comment specifically on the lighting plan or the applicant's revised assessment at DL7 [REP7-269], [REP7-277], however it did note that the REAC (B23, [REP7-359]) specifically cites noise mitigation. NE advised that lighting be referenced to provide clarity regarding the impact pathway and that correct monitoring is adopted. It recommended that an additional commitment be included in the REAC relating to compound lighting and the need to increase the HDD compound barrier height in response to any lit machinery or structures above 3m. It requested a commitment to monitoring of lighting impacts.

4.5.30 The ExA notes that the HRA Report (paragraph 7.2.19, [REP7-119]) states that specific shields and additional barriers could be added to control lux levels and to block visibility of any light fixtures from within the RSPB North Warren Reserve. The ECoW would determine whether specific shields or additional barriers are required to control lux levels and block visibility of fixtures at any designated ecological sites.

UXO clearance

4.5.31 The RSPB [REP1-158] highlighted the potential for UXO to be present and that its removal could result in disturbance to birds within the Sandlings SPA and damage to supporting habitats and noted that only limited references were made to this risk.

4.5.32 The applicant (AP16, [REP4-087]) confirmed that UXO removal would not be required within the SPA as the drill depth within the Sandlings SPA would be below the maximum bomb penetration depth. However, it acknowledged (table 2.1, [REP4-085]) that an UXO survey would still be required at the HDD launch pit and along the route of the trenchless installation in the RSPB

North Warren Reserve to ensure all possible UXO close to the trenchless drill are identified. Surveys would be non-invasive and likely undertaken by drone. They would be subject to Site of Special Scientific Interest (SSSI) assent from NE and agreement with the RSPB as the landowner. It explained in response to ExQ1GH1 [REP3-069] that options for disposal would be risk assessed at the time of identifying UXO and any consents or permits (including HRA) would be produced at that time and [REP4-087] confirmed that relevant statutory bodies would be consulted on the approach to removal should a UXO be found. This is reflected in the revised HRA Report [REP7-119], which notes that there is no recorded ordnance or evidence of bombs being dropped at the trenchless drill site.

4.5.33 Furthermore, the applicant updated commitment GG39 of the oCEMP [REP7-129] to confirm that mitigation measures would be implemented in accordance with the recommendations in the terrestrial UXO risk assessment (appendix A of the oCEMP). GG39 also commits to the applicant consulting with NE and the RSPB where it has influence over the control of any explosions.

4.5.34 The RSPB [REP4-142] was concerned about deferral of assessment until after the consenting process is complete. The matter is marked as not agreed in the RSPB SoCG [REP7-054]. Whilst the RSPB welcomed GG39, it stated that not all issues were resolved and anticipated continued discussion with the applicant should the proposed development be consented.

4.5.35 NE responding to ExQ2ECOL5 in [REP5-199] noted that the Ministry of Defence's policy is to detonate terrestrial UXO in situ but would welcome opportunities to avoid this, or otherwise to be consulted on how impacts would be reduced and habitats made good.

4.5.36 The HRA Report (paragraph 7.2.22, [REP7-119]) states that the non-invasive surveys would be undertaken at a period agreed with NE and the RSPB, where significant disturbance would not arise; this has not been committed to by the applicant but a separate SSSI assent would be required as described at paragraph 4.5.32. At the close of examination, NE [REP7-269] advised there should be an appropriately worded commitment in the REAC to undertaking UXO investigations outside core wintering and breeding bird seasons; this would ensure any required detonation would be undertaken in the least disturbing period of the year. NE did not explicitly confirm if it considered there to be an AEoI from UXO surveys and clearance.

In-combination effects

4.5.37 The HRA Report [APP-290] concluded that disturbance of the Sandlings SPA would only arise if multiple projects were to cause noise levels exceeding the 60dB threshold during the nightjar and woodlark nesting season. However, it considered space constraints would not allow for works for projects close to the SPA to take place simultaneously.

4.5.38 The RSPB [REP1-158] considered the applicant's approach did not account for impacts of multiple projects disturbing multiple areas of the SPA. The

applicant responded [REP2-034] that as it was reducing its impact to 'not-disturbing' (ie less than the 60dB L_{Amax} threshold agreed with NE), any in-combination effect would remain not significant.

4.5.39 The matter is marked as not agreed in the RSPB SoCG [REP7-054].

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE SANDLINGS SPA

4.5.40 Whilst the ExA acknowledges the concerns of SEAS about the baseline survey data for woodlark and nightjar, it is content with the applicant's position that there is good survey coverage, noting that NE as the ANCB did not raise any concerns in its relevant representation. The ExA is satisfied that the baseline information is sufficient for the purposes of the assessment.

4.5.41 The ExA considers that there would be a short-term loss for a single nesting season of acid grassland that is FLL used for foraging woodlark and nightjar qualifying features. However, the ExA is satisfied with the applicant's proposed mitigation measures and has not been presented with evidence to suggest that the affected acid grassland would not reinstate. It also notes that there is other foraging land in the local area. The ExA notes that NE as ANCB has advised that there would be no AEoI from loss of FLL. The ExA is satisfied that there would be no AEoI from this LSE pathway.

4.5.42 Based on the mitigation measures secured for noise and visual disturbance in the oCEMP and REAC as described above, the ExA is satisfied that these matters would be adequately controlled. The ExA has considered NE's comments regarding the control of lighting for plant and equipment that exceeds 3m but in light of the short duration of such activity, considers that this would not give rise to an AEoI of the Sandlings SPA.

4.5.43 The ExA notes that there would be a separate consenting process for SSSI assent in relation to UXO investigation and then clearance if required, and that NE and the RSPB as landowner would be consulted. Whilst it is not secured in the oCEMP, the SSSI assent process would provide a mechanism for the timing of the investigation to be specified so that it avoids core wintering and breeding bird seasons.

4.5.44 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information, and the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the Sandlings SPA from the proposed development alone or in-combination with other plans or projects.

STODMARSH SPA AND RAMSAR SITE

4.5.45 The HRA Report [REP7-119] assesses the following LSE pathway for all qualifying features of the Stodmarsh SPA and for bird species of the Stodmarsh Ramsar site:

- collision risk (paragraphs 7.4.30 to 7.4.34)

RESOLVED MATTERS

4.5.46 No matters in respect of the assessment of effects on integrity on the Stodmarsh SPA and Ramsar site were raised and subsequently resolved during the examination.

4.5.47 At DL7, NE [REP7-277] confirmed it agreed with the applicant's conclusions of no AEoI of the sites.

UNRESOLVED MATTERS

Collision risk (also applicable to the TCSB SPA and Ramsar site, see below)

4.5.48 NE (B36, [RR-3920]) confirmed that the applicant had provided sufficient information to conclude no AEoI of the Stodmarsh SPA and Ramsar site and the TCSB SPA and Ramsar site from bird collision risk. However, the RSPB [REP1-158] and RSPB Thanet [REP1A-061] considered collision and displacement risk for pylons across the River Stour had been underestimated and queried whether the survey effort was adequate to inform the collision risk assessment.

4.5.49 The applicant [REP3-067] considered its survey effort to be sufficient and proportionate for the new overhead powerline. Responding to the ExQ1ECOL, the applicant considered [REP3-069] that its assessment had broad criteria and assumptions which provided an exaggerated WCS and that the 6m vertical LoD for the proposed pylons would not materially change the assessment. It noted [REP4-086] ExQ2ECOL49 in [REP5-135] that earth wires are responsible for a higher rate of collisions than other parts of the overhead line infrastructure and that applying the 6m LoD, the earth wire would only be outside survey height risk range immediately either side of the pylon. It stated that birds would visually detect the pylon and avoid the large structure and airspace around them.

4.5.50 The applicant [REP4-085], ExQ1ECOL10 in [REP4-083] noted that birds currently interact with an existing wirescape across the River Stour. It stated that collision risk is fewer than one individual annually for most species and concluded no mitigation is required, as no significant effects are predicted. However, it confirmed that bird diverters would be fitted to the new section of overhead line. In response to a suggestion in ExQ3ECOL8 [PD-023], the applicant updated the oCEMP (B55, [REP7-129]) to state that bird diverters would be visible in low light conditions and at night.

4.5.51 NE responding to ExQ1ECOL10 [REP4-196] and ExQ2ECOL50 [REP5-199] confirmed that it did not consider there to be any need for additional diverters to be fitted to other lines in the area for the purposes of HRA. However, KWT [REP3-092], CPRE Kent responding to ExQ1ECOL10 [REP3-082] and the RSPB [REP5-092], [REP7-054] considered that bird diverters should be fitted to both existing and new wires.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE STODMARSH SPA AND RAMSAR SITE

4.5.52 The ExA has considered the potential for collisions in section 3.14 ecology, biodiversity and ornithology of this recommendation report. The ExA is satisfied that the applicant has committed to provision of diverters on proposed lines that are suitable for low light and night conditions.

4.5.53 The ExA has considered IPs representations regarding the need for bird diverters on existing lines and has not received compelling evidence to support their usage and NE has advised that this measure is not necessary from an HRA perspective. The ExA is therefore satisfied that from an HRA perspective this measure is not necessary.

4.5.54 The ExA agrees that in light of the low predicted collision rates, there would be no AEoI of the Stodmarsh SPA and Ramsar site and the TCSB SPA and Ramsar site from collision risk.

4.5.55 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information and the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the European sites from the proposed development alone or in-combination with other plans or projects.

TCSB SPA AND RAMSAR SITE

4.5.56 The HRA Report [REP7-119] assessed the following LSE pathways for all features of the TCSB SPA and Ramsar site unless specified below:

- changes to marine water quality during cable installation and cable lay from the use of drilling fluids (paragraphs 7.3.9 to 7.3.12 and 7.3.93)
- airborne sounds and visual disturbance from offshore works (7.3.46 to 7.3.52 and 7.3.93)
- indirect effects through impacts to prey species (paragraphs 7.3.66 to 7.3.80 and 7.3.93) (construction phase)
- direct habitat loss (paragraphs 7.4.1 to 7.4.5 and 7.4.35)
- disturbance (noise and visual) from onshore works (paragraph 7.4.6 to 7.4.10 and 7.4.35) for all SPA qualifying features and criterion 6 of the Ramsar site
- pollution (terrestrial changes in water quality from frac out) (paragraphs 7.4.11 to 7.4.14 and 7.4.35)
- loss of FLL (paragraphs 7.4.15 to 7.4.29) for golden plover of the SPA and Ramsar site
- collision risk (paragraphs 7.4.30 to 7.4.34) for all SPA qualifying features and criterion 6 of the Ramsar site

4.5.57 As detailed in section B.2.2 above, the ExA considers there to be a LSE to all qualifying features of the TCSB SPA and Ramsar site from:

- indirect effects through impacts to prey species during operation
- pollution (terrestrial – changes in water quality) due to the use of the hoverport site at the Kent landfall and discharge from the Minster converter station and substation outfalls

MITIGATION MEASURES

4.5.58 Site specific mitigation measures for the TCSB SPA and Ramsar site are detailed in tables B.7 and B.8.

Table B.7 Mitigation measures for the TCSB SPA and Ramsar site within the oCEMP [REP7-129] and oOCEMP [REP7-127] (secured through dDCO requirements 6(1)(a) and 6(2) and dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO)

LSE pathway	Mitigation measure	Commitment number(s)	Additional securing mechanism
Changes to marine water quality (drilling fluids)	Use of drilling fluids from the OSPAR list of PLONOR substances	LVS05	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO) dDML Condition 4(1)(k)(iii) in schedule 16 of the dDCO
Disturbance (noise, visual and lighting)	Use of hovercraft for emergencies only	GG45	n/a
Pollution (terrestrial changes in water quality from frac out)	Measures to minimise frac-out	B09	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO)
	Production of a HDD LMS	B59	dDML condition 4(1)(a)(x) in schedule 16 of the dDCO
	Use of low-pressure hand pumps to manage frac-out	B61	n/a
	Production of a DFMP	GH10 and B59	oCSIP (secured through dDML conditions 4(1)(a)

LSE pathway	Mitigation measure	Commitment number(s)	Additional securing mechanism
			and 4(1)(4) in schedule 16 of the dDCO)
	Management of drilling fluid	LVS05	oCSIP (secured through dDML conditions 4(1)(a) and 4(1)(4) in schedule 16 of the dDCO)
Pollution (terrestrial – changes in water quality) - from the use of the hoverport	Monitoring of the hoverport condition during construction in consultation with the EA, NE, KWT and TDC for approval by TDC	W37	n/a
Indirect effects through impacts to prey species	No excavation would be undertaken to remove stuck drilling equipment except within 40m of the entry or exit point, where the drill is at shallow depth (>5 m), and outside any areas of saltmarsh	B43	n/a
	No vehicular or pedestrian access across the saltmarsh Access to mudflats via hoverport Use of low pressure vehicles	B67	n/a
	Access routes across mudflats to be defined post-consent in consultation with NE, KWT and the NT and to be informed by a pre-construction saltmarsh habitat survey.	B67	oCSIP (secured through dDML conditions 4(1)(a) and 4(4) in schedule 16 of the dDCO)

LSE pathway	Mitigation measure	Commitment number(s)	Additional securing mechanism
	Trenchless crossing exit pits in Pegwell Bay will be at least 105m seaward from the edge of the saltmarsh. The temporary working area and access routes will be located at a minimum distance of 50m from the edge of the saltmarsh	B69	dDCO requirement 16(2) and (3) oCSIP (secured through dDML conditions 4(1)(a) and 4(4) in schedule 16 of the dDCO)
	A target depth of lowering (DoL) of 1.5m seaward of the marine HDD exit	MPE02	n/a
	Further analysis of coastal erosion over the lifetime of the project to inform detailed design	MPE08	n/a
	Monitoring of the River Stour Channel for the operational life of the proposed development	MPE09	dDCO requirement 18(2)
	Natural and, if required, mechanical backfill within the intertidal mudflat following removal of the cofferdams	MPE10	n/a
Direct habitat loss	No excavation would be undertaken to remove stuck drilling equipment except within 40m of the entry or exit point, where the drill is at shallow depth (>5 m), and outside any areas of saltmarsh	B43	n/a

Table B.8 Mitigation measures for the TCSB SPA and Ramsar site not within the oCEMP or oOCEMP

LSE pathway	Mitigation measure description	Relevant control document	Securing mechanism
Habitat loss	HDD installation at the Kent landfall	n/a	dDCO requirement 16(1) and dDML condition 10(1) in schedule 16 of the dDCO
Loss of FLL	Long-term management of 10ha of arable land adjacent to Discovery Business Park	oLEMP- Kent [REP7-141]	dDCO requirements 6(1)(g) and 6(3)
Pollution (terrestrial changes in water quality from frac out)	Intertidal works methodology and mitigation plan for Pegwell Bay	n/a	dDML condition 4(1)(a)(iv) in schedule 16 of the dDCO
Pollution (terrestrial – changes in water quality) - from the use of the hoverport	Pre-construction survey of hoverport hardstanding	oCTMP - Kent [REP7-123]	dDCO requirement 6(1)(c)
	Pre-construction report detailing hoverport condition survey results, proposals for vehicle routing and hoverport condition monitoring programme with trigger levels for action	n/a	dDCO requirement 22

RESOLVED MATTERS

4.5.59 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the TCSB SPA and Ramsar site are as follows:

- Direct habitat loss:
    - KWT [REP6-169] raised concerns about the potential for open-cut trenching methods to be used for maintenance or emergency repairs during operation. The applicant [REP6-108], [REP6-110] confirmed that, with the exception of the temporary entry and exit pits, no surface excavation works would be required above the trenchless landfall alignment during either the installation or operational phases (including emergency repair) of the project, and no rights are being sought in this regard. It noted that the design includes a spare duct to provide resilience should any issue arise. Following a recommended change from the ExA [PD-024], the applicant updated dDCO requirement 16(7) and dDML condition 10 in schedule 16 of the dDCO [REP7-002] to confirm that no open-cut trenching would be permitted for repair and maintenance between the TJB and exit pits unless otherwise agreed with the relevant planning authority in consultation with the SNCB. This was supported by KWT [REP7-310].
    - NE (B1 and B28, [RR-3920]), the RSPB [REP1-158] and ESC [REP1-128], queried the impacts of retrieving stuck HDD drilling equipment. The applicant updated the HRA Report (paragraph 7.4.4, [REP7-119]) confirming that it would be freed by additional tooling and works at the entry or exit or would be left in situ. It updated the oCEMP (B43, [REP7-129]) and oOCEMP (B43, [REP7-127]) to confirm that no excavation would be undertaken to remove stuck drilling equipment except within 40m of the entry or exit point, where the drill is at shallow depth (>5 m), and outside any areas of saltmarsh. NE (B1 and B28, [REP3A-025]) (tab B, point 4 [REP7-364]) confirmed it was satisfied with the applicant's response and the SoCG with the RSPB [REP7-054] confirmed the matter agreed.

- Disturbance (noise and visual) from onshore works:
    - At ISH2, the ExA queried the implications of moving the cable works to their southern extent within the LoD [EV6-033]. The applicant (AP21, [REP4-086]) confirmed that the assessment of disturbance to roosting and feeding waterbirds considers a WCS of the cable pull in works occurring anywhere within the LoD (shown as hashed area on figure 6.4.4.5.8 of [REP5-032]), with the modelled noise attenuation taken from the perimeter of the LoD.
    - To inform its understanding of disturbance impacts, the ExA in ExQ2MO6 [PD-021] requested a plan of key roost locations in Pegwell Bay. This was provided by the applicant in [REP5-032].
    - NE [REP3A-028] noted that no consideration had been given to disturbance to SPA birds from vehicle movements within the intertidal area. The applicant's response to ExQ2ECOL28 [REP5-135]

confirmed that vehicle movements, including noise generated, are considered as part of the airborne sounds and visual disturbance assessment in the HRA Report [REP7-119]. It provided noise contours in figures 6.4.4.5.7 and 6.4.4.5.8 [REP5-032] depicting predicted maximum noise levels along an illustrative access route corridor. NE's submissions (ExQ2MO5, [REP5-199]), [REP7-364], [REP7-273] highlight concerns of disturbance of intertidal mudflats and sandflat, but do not raise any further concerns due to airborne noise and disturbance. The LSE pathway is not identified as a remaining concern in NE's response to ExQ2PE4 [REP5-199].

- Pollution (terrestrial changes in water quality from frac out):
    - The applicant updated the proposed methods for managing frac-out in saltmarsh vegetation in response to NE's concerns (B29, [RR-3920]), to include use of handheld pumps operated at low pressure in the oCEMP (B61, [REP7-129]) and oOCEMP (B61, [REP7-127]). NE confirmed the matter resolved (RI_J6, [REP7-364]).
- Loss of FLL:
    - NE (B19, [RR-3920]) considered the loss of FLL used by golden plover should be a construction phase impact, and not operational as assessed by the applicant. Nevertheless, NE did not consider a change to the HRA Report essential to the outcome of the assessment as the impact had been considered and satisfactorily mitigated [REP3-117].
    - KWT [RR-2980] and the RSPB [REP1-158] noted discrepancies in golden plover numbers in the preliminary environmental information report (PEIR) (700) and the HRA Report [REP7-119] (370) and were concerned that habitat compensation needs were underestimated. The applicant [REP2-014] explained that surveys had recorded a flock of 370 golden plover and 700 lapwings, however this was mis-transcribed in the PEIR as 700 golden plovers. It noted that the size of the mitigation land (10ha) is greater than the area of land needed for mitigation (up to 7.2ha). It anticipated a net increase in habitat for most ecological receptors and considered there to be a high likelihood of success. The SoCG with the RSPB [REP7-054] records the matter as agreed and KWT [REP7-265] referred to a peak population count of approximately 370 individuals at DL7.
- Indirect effects through impacts to prey species (operational phase):
    - NE [REP5-217] requested monitoring of the cable route through Pegwell Bay over the project lifetime. This was agreed to by the applicant and secured in the oOCEMP (MPE09, [REP7-127]).
    - Responding to NE's concerns [REP5-218] about risk of habitat change or loss due to disposal of excavated material from HDD exit pits elsewhere within the Order Limits, the applicant added MPE10 as a commitment to the oOCEMP [REP7-127] to confirm that natural (and if required, mechanical) backfilling would occur on removal of the cofferdam.

UNRESOLVED MATTERS

Airborne sounds and visual disturbance from offshore works

Cable installation

4.5.60 KWT [REP6-169] acknowledged provisions in place to limit construction noise at the converter station and substation to 60dB LA_{max}. However, it considered that the predicted noise levels of 75dB LA_{max} during cable installation had potential to disturb breeding and wintering birds. It did not believe that this noise impact had been adequately addressed. The applicant [REP7-257] considered it had modelled and fully assessed all potential noise impacts.

Noise from construction traffic crossing the hoverport

4.5.61 The ExA noted that the noise modelling assumed all ground is soft except for areas of water and intertidal areas at low water and queried the applicant's approach for modelling the former hoverport in ExQ1NV16 [PD-017]. The applicant [REP3-069] confirmed the former hoverport had been modelled as soft ground and that this was proportionate due to the size of the area modelled, and that a small area of hard ground such as the hoverport would likely have negligible influence on modelling results. The ExA questioned whether this could have implications for traffic noise at ISH3 [EV9-008], [EV9-012]. KWT [REP6-169] shared the ExA's concerns, noting the hoverport is surfaced with tarmac.

4.5.62 The applicant submitted Hoverport Construction Access Noise Modelling – Technical Note [REP6-123], which modelled the ground as hard ground. However, the note confirms that it relates to impacts on residential receptors. It refers to figures 7 and 8 of ES Figures Marine Ornithology [REP5-032] for maximum noise levels from construction activities in relation to their impact on ecological receptors and predicted maximum sound levels.

Disturbance from hovercrafts

4.5.63 NE [REP3A-028] queried the need for hovercrafts proposed in the PBCMTN [REP7-147], given they are particularly disturbing to SPA birds and noting that hovercraft use is heavily controlled in other SPAs. The applicant [REP4-241] confirmed that the hovercraft would be on standby, used as a last resort for emergencies and made updates to the oCEMP (GG45, [REP7-129]) and oOCEMP (GG45, [REP7-127]) to reflect this.

4.5.64 However, at DL7, NE [REP7-274] remained concerned about the risk of disturbance. It considered there to be insufficient information on timings, extent and duration of works as well as phase of the emergency works (ie construction, operation or maintenance). It requested this information before it could provide further advice on the impacts.

Lighting of cofferdam in the intertidal area

4.5.65 NE [REP3A-028] noted that lighting of the cofferdam in the intertidal area was proposed. It requested further assessment of disturbance impacts to Annex I birds.

4.5.66 The applicant [REP4-241] responded that lighting would be required for a maximum of 28 days during construction of the cofferdams and would be directed inwards to the 21,600m^2 working area, with no impacts to birds in the intertidal area and no light spill to terrestrial habitats. The applicant further explained [REP7-173] that the area at the cofferdam has been treated in the assessment as a temporary loss of habitat, therefore birds would not be using the area so there would be no additional impact pathway from lighting of the cofferdam.

4.5.67 NE in RIESQ28 [REP6-251] stated that 21,600m^2 was a considerable area and could not exclude disturbance impacts to SPA birds. It noted that intertidal works at other SPAs have been undertaken outside of the sensitive period to avoid the issue. At DL7, NE [REP7-277] considered it unclear if cofferdam construction would occur in the hours of darkness, but it was likely to be the case. It advised that, due to the stage in the examination, a REAC commitment should be made to the provision and sign off of a lighting management plan to Tendring District Council and the MMO, in consultation with the relevant SNCB. The ExA notes that NE referred to Tendring District Council in its submission but believes it should have referred to TDC as the relevant planning authority.

ExA conclusion on airborne sounds and visual disturbance

4.5.68 The ExA has considered the applicant's assessment of disturbance due to noise from cable laying and vehicle movements. The ExA considers that some disturbance from cable laying and vehicles tracking across the intertidal area is inevitable, however considers that the applicant's noise assessment demonstrates that significant disturbance due to noise can be ruled out. The ExA considers that an AEoI of the TCSB SPA and Ramsar sites from airborne noise disturbance can be ruled out. This is due to the temporary and short term nature of effects, the scale of the works relative to the overall size of intertidal habitats available, and the need to agree working methods and mitigation with the SNCBs through the LMS and intertidal works methodology and mitigation plan secured by schedule 16, condition 4 of the rDCO.

4.5.69 The ExA notes that the applicant's indicative programme avoids the sensitive winter period. The ExA considers that commitment B59 to produce an LMS and the requirement to obtain approval for an intertidal methodology and mitigation plan in consultation with the SNCB would ensure that works during the sensitive wintering period would be avoided. The ExA recommends that Secretary of State requests that REAC commitment B59 is updated to include the following wording relating to the Kent landfall "**The landfall method statement shall ensure that works in Pegwell Bay are programmed to avoid the wintering period (November to February)**".

4.5.70 The ExA has considered the implications of hovercraft usage and considers that anything other than emergency usage would have potential to give rise to an AEoI of the designated sites due to noise and visual disturbance, in the absence of any assessment to the contrary. However, on the basis that commitment GG45 of the REAC [REP7-359], commits the applicant to using hovercraft for emergencies only, the ExA considers that AEoI can be ruled out. The ExA has separately recommended in section 3.14 of this recommendation report that the Secretary of State requests the applicant to update GG45 of the REAC [REP7-359], oCEMP [REP7-129] and oOCEMP [REP7-127] to strengthen this commitment by defining emergency use and providing for reporting on all instances of hovercraft use to NE and TDC and applying the commitment across all project phases.

4.5.71 The ExA considers that cofferdam lighting has potential to give rise to visual disturbance but accepts the applicant's argument that the lighting will be largely confined to the cofferdam area, which is a small area of overall foraging habitat within Pegwell Bay. In any case, the cofferdam area would be temporarily unavailable for foraging. The ExA notes NE's comments regarding the need for a lighting management plan but considers that this is a matter that can be addressed as part of the approval for an intertidal works methodology and mitigation plan for Pegwell Bay to be approved by the MMO as part of the detailed CSIP secured in dDML Condition 4(1)(a)(iv) in schedule 16 of the dDCO. This would be used to finalise the methods for works in the intertidal area in consultation with the SNCB and does not therefore need to be secured separately.

4.5.72 Overall, the ExA considers that an AEoI of the TCSB SPA and Ramsar sites can be ruled out from airborne sounds and visual disturbance.

Indirect effects through impacts to prey species (construction phase)

Impacts on supporting habitats from vehicle movements

4.5.73 The PBCMTN [REP7-146] states there may up to 40 vehicle movements across the mudflats per day at peak times (over an approximate one-year duration). It identifies access onto the intertidal mudflats via the disused hoverport, with the final location and width to be determined post-consent. It explains that there may be a requirement to install temporary road plates (steel sheet piles and steel support waling and struts) or protective trackway at locations where the former hoverport access corridor crosses the Nemo and Thanet cables.

4.5.74 NE [REP3A-028] noted that there was no consideration of how vehicle movements for cable installation and operation activities could impact on intertidal habitats and protected species which rely on the habitat. It considered [REP3A-028] that repeated access along the intertidal area could cause rutting and compaction of sediment that could hinder the transition to Annex I saltmarsh and change infaunal communities of which SPA species rely. It queried the necessity of some equipment including tractors and hovercraft, and the number of 4-wheel drive vehicles required and advised

that further measures should be considered to reduce impacts on intertidal habitats and sediment compaction.

4.5.75 KWT and CPRE Kent [CR1-053] were concerned that it was unclear how modification to the hoverport access would avoid damage to the saltmarsh.

4.5.76 The applicant [REP4-241] stated that it had assessed effects of vehicles transiting the intertidal area and the use of temporary bog mats in Marine Chapter 1, Physical Environment [REP7-097] and Marine Chapter 2, Benthic Ecology [REP7-099], which concluded no significant impact. It noted in responding to ExQ2MO5 [REP5-135] that bog matting would likely only be required in specific areas such as the crossing of the Thanet and Nemo cables and that Pegwell Bay represents 0.592% of the overall intertidal mudflat foraging resource based on 12.1825km^2 of mudflat habitat identified on the Ramsar site information sheet. It concluded that in the context of the wider intertidal mudflats, this extent of bog matting is unlikely they would contribute to a significant reduction in prey availability of foraging habitat.

4.5.77 The applicant [REP5-132] noted that the extension to the order limits in CR1 would provide more flexibility for construction access to avoid potential impacts on the saltmarsh. It updated the oCSIP [REP7-159], the oCEMP (B67, [REP7-129]), and oOCEMP (B67, [REP7-127]) to commit to defining the locations and widths of access routes across the mudflats post consent in consultation with NE, KWT and the NT as appropriate, and for this to be informed by a pre-construction saltmarsh habitat survey. B67 notes that this would ensure there would be no vehicular or pedestrian access across the saltmarsh. KWT [REP6-248] noted that the applicant's plans presented at ISH3 illustrated access routes across the hoverport and intertidal mudflats and raised concerns that they had therefore been pre-determined in advance of the consultation requirements.

4.5.78 The applicant explained [REP4-241] that 4-wheel drive vehicles are not expected to be frequently used and can be run with reduced tyre pressure if required. It committed to low-pressure vehicles in commitment B67. The applicant revised the HRA Report [REP7-119] to state that disturbance to the mudflat from construction plant and vehicles would be very superficial, and is expected to be visible for a very short period only, likely to be a single tidal cycle, or a few at worst. It concludes that there would be only short-term and localised impact to benthic infaunal communities, plus the very limited extent of disturbance compared to the total area of mudflat habitat at Pegwell Bay available for foraging.

4.5.79 However, NE [REP5-217] (appendix J, [REP5-222]), [REP7-273] remained concerned about movement of heavy construction plant and vehicles impacting intertidal mud and sand flats. It noted that evidence from cable installation in The Wash and at Hornsea 1 and 2 landfalls has demonstrated sediment compaction even with the use of low ground pressure excavators, resulting in limited recovery of habitats. It advised that strong commitments be made to only use low ground pressure vehicles (less than a human footprint), to limit the number of return trips per vehicle, to the use of

aluminium trackway to spread the load and reduce the speed of vehicles are required to resolve this issue.

4.5.80 NE [REP7-273] advised that monitoring of recovery of the intertidal mudflats morphology and biological communities following landfall construction works is required to validate the predictions made by the applicant. It stated that this issue could be considered resolved if appropriate monitoring is secured through an in-principle monitoring plan (IPMP).

4.5.81 The applicant submitted an Outline IPMP (oIPMP), which was updated at DL7 [REP7-167]. The oIPMP included commitments to monitoring of benthic and intertidal ecology, including pre- and post-construction surveys of the cable corridor but did not refer to impacts from vehicle movements or recoverability of the mudflats as requested by NE. A final IPMP in accordance with the oIPMP would be secured through dDML condition 15(4) in schedule 16 of the dDCO. Condition 15(5) requires submission and approval by the MMO in consultation with the SNCB of an adaptive management plan where post-construction monitoring identifies impacts that are worse than those predicted in the HRA. NE [REP7-364] recorded this matter as partially resolved.

Impacts on supporting habitats – saltmarsh

4.5.82 Open cut trenching would be required to install the cables from mean low water springs to the trenchless crossing exit pits. As detailed in table B.7, the applicant committed to locating the trenchless crossing exit pits at least 105m seaward of saltmarsh habitat, and the temporary working area a minimum of 50m from the saltmarsh (B69). In response to NE's concerns that 50m was insufficient [REP3A-028], [REP4-195], ExQ1ECOL34 in [REP4-196], the applicant stated (AP83, [REP6-110]) that the more disturbing works in relation to the cofferdam and exit pits would be over 90m from the saltmarsh edge and in response to ExQ2MO5 [REP6-106], [REP7-259] that there would be no open trenching through the saltmarsh habitat.

4.5.83 The applicant submitted a Pegwell Bay Saltmarsh Limits Topographic Survey [REP6-119]. NE [REP7-272] noted that the saltmarsh edge is near, or potentially overlapping with, the Pegwell HDD and exit areas, and this would affect the commitments made in B69. It highlighted concerns that there may be impacts on the prograding saltmarsh during construction, or later phases of the proposed development, if the setback distance or buffer is not sufficient. It advised that the latest saltmarsh limit topographic survey information should be used to establish a buffer between the seaward edge of the saltmarsh and the HDD exit pits and temporary working area. The applicant was unable to comment further prior to close of examination.

Impacts on supporting habitats – intertidal habitat disturbance

4.5.84 NE [REP3-118] queried the total intertidal seabed disturbance footprint from cable installation and sought further information on construction activities to inform assessment of seabed disturbance. The applicant provided information on the construction and operation activities at Pegwell Bay in the PBCMTN [REP7-146], and amendments were made to the HRA Report

[REP7-119] confirming the total intertidal seabed disturbance footprint for cable installation activities would be 0.0721km^2. However, NE [REP6-244] advised that some landfall construction activities were not included, and that clarification was needed about sequential or overlapping cable installation activities. The applicant [REP7-257] responded that it had revisited Marine Chapter 1, Physical Environment [REP7-097] and Marine Chapter 2, Benthic Ecology [REP7-099] further to discussions with NE. NE was unable to confirm their concern had been addressed as the examination closed and the matter is marked as not resolved in the risks and issues log (tab D, point 20, [REP7-364]).

4.5.85 NE [REP6-245] also noted the addition of the use of a backhoe dredger for cable lay and burial activities in the oCSIP [REP7-159]. It was not supportive of their use within intertidal supporting habitats for SPAs due to leg depressions from jack-up legs. It advised that this matter would be resolved if the applicant committed to a barge bottoming out in the intertidal area. However, the applicant [REP7-257] explained that the jack-up barge to be used at Pegwell Bay would be significantly smaller than those used in the offshore environment and would be in place for a maximum of 120 days; therefore, disturbance would be short-term with depressions backfilled by excavators. NE was unable to comment specifically on this matter prior to close of examination, however NE provided its draft standard advice which advises not using jack-up barge within designated sites (annex A, [REP7-277]).

Impacts on supporting habitats from intertidal sediment disturbance and blockages due to cofferdam and use of jack-up barges

4.5.86 NE [REP4-191], ExQ2PE4 in [REP5-199] highlighted the potential for the proposed temporary cofferdam to result in intertidal sediment disturbance and blockages, which could have an indirect effect on the TCSB SPA and Ramsar site features.

4.5.87 The applicant provided Additional Sediment Dispersion Modelling – Technical Note [REP6-120] to assess changes in tidal flow conditions around the cofferdam. The applicant concludes that the temporary cofferdam would not result in any meaningful change to sediment dynamics in Marine Chapter 2, Benthic Ecology [REP7-099]. It noted (table 15.2, [REP5-132]) that post-construction monitoring of Nemo Link Interconnector showed that the loss of intertidal fauna was localised and temporary, and by 2020 faunal communities and habitats present along the cable route reflected those seen during the baseline survey. It noted that the combined effects of episodic wave stirring tidal currents would ensure that the seabed naturally re-levels and recovers from temporary construction impacts without intervention

4.5.88 NE considered [REP5-217], [REP5-221] that there is a lack of empirical evidence (for example, from Thanet OWF or Nemo Link) to support the applicant's predictions of temporary morphological change. It noted [REP7-272] that the applicant's modelling results suggest there may be temporary wave blockage on the saltmarsh edge. It requested that landfall monitoring include a commitment to validate predictions of impacts due to cofferdam

presence including from an increase in current speed leading to erosion of saltmarsh sediments. It stated that this would likely resolve the issue.

4.5.89 NE [REP3A-028] also raised concerns about the impact of jack-up barges, which could be used as part of the cofferdam installation. It advised that there is evidence from OWFs of leg depression lasting more than 2 years. The applicant [REP4-241] stated that its preferred method at the HDD exit pit was ground barge but a jack-up barge may be used if freeboard at high tide is not sufficient. It stated that if used, an offshore environmental advisor would be appointed to monitor the depressions and identify any mitigation. The ExA [PD-025] sought further evidence from NE about whether data from OWFs would be relevant to the proposed development given the different water depth and energy levels between works in the marine and intertidal areas. NE [REP7-277] reiterated that jack-up barges can leave temporary or, in some cases, long lasting depressions and provided its standard advice in annex A, which advises not using jack-up barge within designated sites.

Temporary increases in SSC and sediment deposition

4.5.90 NE [REP4-191] advised that increases in SSC and sediment deposition should be considered, as the intertidal reef, mudflats and sandflats provide valuable feeding grounds and roosting areas. It considered changes to supporting processes could hinder conservation objectives to maintain or restore supporting habits upon which the features rely.

4.5.91 The applicant [REP4-241] stated that the upper intertidal habitat at Pegwell Bay is predominantly mud, which is relatively insensitive to smothering. It considered that sediment disturbed during cable burial would remain in suspension for a limited period before being deposited back onto the intertidal surface rather than being more widely dispersed. It concluded that natural sediment transport driven by tidal action is sufficient to ‘smooth-out’ any variations in the seabed caused by all nearshore temporary activities, returning the bed to equilibrium conditions.

4.5.92 NE [REP5-217] requested further detail regarding increased SSC and sediment deposition, including anticipated maximum spatial extent of increased SSC and subsequent sediment deposition thickness due to cable installation. The applicant’s Additional Sediment Dispersion Modelling – Technical Note [REP6-120] describes additional modelling undertaken to quantify increases in SSC from construction activities using a new release location at Pegwell Bay. It concluded that the SSC levels from this release point were less than or similar to those at the nearest release point used in the original modelling. The outcomes were used to inform updates to the HRA Report (paragraphs 7.3.73 to 7.3.75, [REP7-119]), which states that increased SSC and deposition would be extremely short-lived and highly localised to benthic infaunal communities, and not anticipated to be a significant effect on prey availability.

4.5.93 NE [REP7-272] noted that plate 2.8 of [REP6-120] shows a continuous trend of increasing deposition thickness across the intertidal area. It queried whether the modelling represented the overall WCS for any overlapping,

additive cable installation activities. It advised that the WCS parameters be provided for construction-related changes (such as footprint, thickness and persistence) to increase understanding of the changes to intertidal mudflat and sandflat morphology and elevation before it could advise on impact significance.

NE final position

4.5.94 NE [REP7-273] noted that no evidence had been presented that the area to be affected by the proposed development is comparatively more or less important than supporting SPA habitat, nor that that surrounding areas would provide the same resource. It advised that impacts to supporting habitats of the TCSB SPA and Ramsar site remain unresolved, but could be addressed through a commitment to pre-construction surveys of bird hotspot areas within the SPA. Due to the timing of the submission, the applicant was unable to respond.

ExA conclusion on indirect effects through impacts to prey species (construction phase)

4.5.95 The HRA Report assesses the potential impacts from cable installation construction activities and plant and vehicle movements. The ExA considers that the applicant's use of low pressure bearing vehicles and potentially trackways or matting, would serve to minimise the effect of vehicle movements on the intertidal area. Whilst NE remained concerned about the impact of vehicle movements, the ExA is satisfied that the intertidal works methodology and mitigation plan secured by dDML Condition 4 in schedule 16 of the dDCO, which requires MMO approval in consultation with the SNCB, would ensure that relevant controls on vehicle movements (including numbers and speed limits) could be secured. Along with the proposed mitigation in commitment B67, the ExA considers that this would avoid adverse effects from vehicle movements.

4.5.96 However, in light of the sensitivity of the surrounding environment, the ExA agrees with NE's suggestion that intertidal monitoring should be included. As described in the benthic ecology, section 3.4 of this recommendation, the ExA was not satisfied with the applicant's commitments in the oIPMP and dDCO schedule 16, condition 15. The ExA has therefore recommended in the rDCO a new condition 4(1)(l) in schedule 16, which requires submission and approval by the MMO in consultation with the SNCB of a monitoring plan, with a commitment to monitoring recoverability of the mudflats. The plan must be in accordance with condition 15 (replacement wording) and a new condition 17 of the rDCO, which provide strengthened commitments to survey, mitigation and adaptive management. The ExA is satisfied that with the measures in the rDCO there is a mechanism for validating the predicted effects to the mudflats and securing adaptive management as needed.

4.5.97 The ExA notes NE's concerns regarding prograding saltmarsh. However, the applicant has included REAC [REP7-359] commitment B69 regarding the proximity of trenchless crossing exit pits and temporary working areas from saltmarsh, which is included in the REAC, the oCSIP and specifically as

rDCO requirements 16(2) and (3), which would ensure that works remained offset from the saltmarsh.

4.5.98 The ExA notes that NE had outstanding concerns regarding the MDS within Pegwell Bay. The ExA is satisfied that the ES has been updated further to discussions between the applicant and NE but notes that NE was unable to comment on the final documents. The Secretary of State may wish to obtain a final position statement from NE regarding the DL7 submissions. The ExA is of the view that the total area of Pegwell Bay affected by the works would remain a relatively small percentage of the total intertidal habitat available. The ExA is therefore satisfied that alternative foraging areas would be available for bird species within Pegwell Bay.

4.5.99 With regards to impacts from the proposed cofferdam, the ExA considers that the applicant's additional dispersion modelling demonstrates that effects from the presence of the proposed cofferdam in the intertidal area would be minor, localised and temporary. The ExA is satisfied that, whilst minor increases in suspended sediment could arise, these effects would not give rise to AEoI and are unlikely to be worse than the range of suspended sediment concentrations experienced within storm conditions. The ExA considers that monitoring of the effects of the cofferdam on the saltmarsh edge is a matter that could be included in the intertidal works methodology and mitigation plan secured by rDCO schedule 16, condition 4. The ExA notes that NE considered that monitoring would likely resolve its concerns.

4.5.100 The ExA acknowledges NE's standing advice regarding the use of jack-up barges in designated sites however, based on the size of vessels indicated, the ExA does not consider that adverse effects would be likely. The ExA also considers that this is a matter that would be subject to consideration as part of the LMS and intertidal works methodology and mitigation plan in rDCO schedule 16, condition 4.

4.5.101 The ExA is satisfied with the applicant's modelling of cable installation activities, which demonstrates that natural sediment transport driven by tidal action is sufficient to 'smooth-out' variations in the seabed returning it to equilibrium conditions. The ExA is content that increased SSC would be short-lived and localised, and would not result in LSE on prey availability due to deposition (leading to smothering).

4.5.102 The ExA has considered NE's suggestion that hot spot modelling for bird areas within the SPA is undertaken. It did not provide detail on how this should be undertaken, nor how the results could be used post-consent. It is unclear to the ExA what changes could be made further to the results of hotspot modelling. Whilst the ExA considers that the provision of hotspot modelling would have been beneficial to provide greater clarity on impacts, it does not consider that its use post consent can be relied on for the purposes of the HRA. There is limited flexibility at the Kent landfall to take account of the hotspot modelling results and the impacts need to be determined for the purposes of the Secretary of State's decision.

4.5.103 Overall, the ExA considers that AEoI of the TCSB SPA and Ramsar site from indirect effects through impacts to prey species (construction phase) can be ruled out.

Indirect effects through impacts to prey species (operational phase)

4.5.104 As set out in paragraphs 2.2.49 to 2.2.50 of this appendix, the ExA noted NE's concerns about the impacts of remedial works during the operational phase and considers there to be a LSE from this impact pathway.

4.5.105 The applicant considers the uncertainty regarding future migration of the mouth of the River Stour in Marine Chapter 1, Physical Environment (paragraph 1.7.69, [REP7-097]). It states that this could not be reduced by additional modelling or surveys of present-day conditions. Noting its Landfall Sediment Modelling Report [PDA-038], the applicant concluded [REP4-241] that future variability would not pose a problem to the cable. Nevertheless, it confirmed [REP4-241] that remedial action would be carried out if the cable was exposed to avoid wider scale effects, with details of proposed remedial measures provided in (AP75, [REP4-086]). The applicant [REP6-108] confirmed that a marine licensing process would be required, which would include a HRA once the nature of works is known. It stated that based on discussion with the EA, the most likely remedial action would be re-burial of the cable.

4.5.106 The ExA [EV6-033] queried the feasibility of a 3m DoL below the bed level of the River Stour. The applicant (AP74 [REP4-086]) responded that this would result in an increased magnitude of disturbance that could have implications for the HRA. It stated that for these reasons and given the findings of the Landfall Sediment Modelling Report [PDA-038], a 1.5m cable depth below seabed was reasonable. The EA [REP5-173] requested the applicant commit to cable burial deeper than the mouth of the low flow River Stour channel. Alternatively, it stated that a commitment to ongoing maintenance dredging in combination with the port authority would be a suitably low impact method to control movement of the river mouth. NE [REP6-250] remained concerned that the DoL may not be sufficient to avoid impact from migration of the low river channel and requested further detailed analysis and additional mitigation such as a deeper burial or moving the cable north.

4.5.107 The applicant, responding to ExQ2ECOL25 in [REP5-135], also explained that a separate marine licence would be sought for any additional rock protection in the Sandwich Bay SAC if required and that no assessment was required in the HRA as this did not form part of the proposed development. It updated the dDML in schedule 16 of the dDCO [REP7-002]) to secure that no cable protection would be deployed within the SAC after construction has ended.

4.5.108 At the close of examination, NE [REP7-272] remained concerned that there was insufficient certainty about the future position of the river mouth relative to the cable route, and the need for remedial works that could lead to additional impacts to mud or sand flats in the TCSB SPA and Ramsar site. It did not consider that MPE09 was sufficiently specific to remove the risk of

AEoI. It requested that monitoring of the river channel should commence as soon as possible and that trigger points for contingency action should be defined. It also requested [REP7-271] that requirement 18(2) in the dDCO be amended to include consultation with the relevant SNCB.

ExA conclusion on indirect effects through impacts to prey species (operational phase)

4.5.109 The ExA has considered whether deeper cable burial than 1.5m would be appropriate to avoid subsequent cable exposure and the need for remedial works in the intertidal area. The ExA is of the view that whilst deeper cable burial would reduce the risk of future exposure the increased scale of excavation could extend the applicant's programme and the scale of effects on receptors within the TCSB SPA and Ramsar site.

4.5.110 The rDCO secures monitoring of River Stour migration over the lifetime of the proposed development in schedule 16, condition 18 (formerly requirement 18). This would serve to identify any issues with channel migration and condition 18 (3) would ensure that the Environment Agency would need to approve any mitigation works. Given that cable exposure may not occur, the ExA is content to rely on the subsequent agreement and approval with the Environment Agency to address any outstanding HRA matters. The revised condition includes reference to consultation with the relevant SNCB. To ensure that monitoring is secured for the lifetime of the development, the dDCO [REP7-002] wording of 18 (2)(a) is amended as follows "Monitoring will be undertaken annually ~~for the first five years~~ following installation of the cables, unless otherwise agreed in writing by the Environment Agency". The ExA has also modified section (3) of the condition to avoid uncertainty "**The remedial works will be undertaken in accordance with the approved details**". The ExA has separately amended the dDCO to include reference to consultation with the SNCB.

4.5.111 The ExA considers that the need to agree mitigation measures with the Environment Agency in consultation with the SNCB would ensure that no exposed rock protection in the Sandwich Bay SAC would be permitted after construction. Since the extent of the SAC and the TCSB SPA and Ramsar overlap, the ExA is satisfied that this provision would avoid indirect effects on prey species during operation in the SPA and Ramsar as well from deposit of cable protection materials.

Pollution (terrestrial changes in water quality)

Frac out

4.5.112 NE [REP3A-028] cited East Anglia One offshore cable installation as an example where SPA birds had been affected by a bentonite frac out. It advised that further consideration of the likely duration of bentonite remaining on the seabed and implications for the wider ecosystem be assessed. The applicant [REP4-241] responded that the HDD location for East Anglia One was a constrained environment with little coastal wave action, which is not comparable to the more dynamic environment of Pegwell Bay. It noted that

the saltmarsh in Pegwell Bay is dry 50% of the time and considered that frac-out could be easily removed.

4.5.113 NE responding to ExQ2ECOL53 in [REP5-199] stated that final signoff of the CSIP, LMS and DFMP prior to construction was essential to alleviating its concerns. As described at paragraph 4.2.25 above, the applicant subsequently committed to producing an HDD LMS and DFMP (in consultation with NE, KWT, the RSPB, NT, and TDC), prior to commencement of any HDD activities in the REAC (B59, [REP7-359]). It also secured the LMS as a pre-construction plan required under dDML condition 4 in schedule 16 of the dDCO [REP7-002].

4.5.114 As recorded in paragraph 4.2.28 above, the RSPB was satisfied with the applicant's proposed measures to manage frac out if NE's concerns were alleviated. However, at the close of examination, NE (RI_J19, [REP7-364]) stated the matter was not resolved, although noted that commitment B59 could be extended to provide the necessary assessment of impacts on SPA features.

Discharge from Minster converter station and substation outfall

4.5.115 As described in paragraph 2.2.47, on a precautionary basis the ExA has considered potential for discharge from the proposed outfall to contribute to the pollution LSE pathway, as NE advised that further commitments were required to water quality monitoring. No further concerns were raised by NE.

Use of the hoverport

4.5.116 See paragraphs 4.2.9 to 4.2.15 above.

ExA conclusion on pollution

4.5.117 The ExA is satisfied that dDML condition 4(1)(a)(iv) in schedule 16 of the dDCO [REP7-002] secures an intertidal works methodology and mitigation plan for Pegwell Bay that will ensure that pollution risk from frac out is minimised. In addition, commitments B09, B61 and LVS05 as described in table B.7 of this appendix are proposed. These include consultation with NE as the SNCB. The ExA is therefore satisfied that there would be no AEoI of the TCSB SPA and Ramsar site from this impact pathway from the proposed development alone or in-combination with other plans or projects.

4.5.118 Regarding runoff from the Minster converter station and substation, the ExA notes NE's comments regarding the need for surface water monitoring but considers that since the runoff would comprise surface water runoff only, there is no need for specific water quality monitoring. The ExA is satisfied that with the commitment to SuDS (W11, [REP7-129] there would be no AEoI due to this impact pathway.

4.5.119 Regarding pollution from the use of the hoverport, as noted in paragraphs 4.2.16 to 4.2.22 above, the ExA is satisfied that rDCO requirements, conditions and mitigation measures included in the REAC [REP7-359],

oCEMP [REP7-129] and oOCEMP [REP7-127] would avoid an AEoI due to this pathway.

Loss of FLL (golden plover)

4.5.120 Construction of the Minster converter and substation site in Kent would result in the loss of functionally linked arable foraging habitat for golden plover associated with the TCSB SPA and Ramsar site during early winter (October to December). The applicant proposed the long-term management of 10ha of arable land adjacent to Discovery Business Park to mitigate the loss.

Adherence to mitigation hierarchy

4.5.121 KWT [REP1-152] questioned adherence to the mitigation hierarchy, suggesting site selection was based on land availability and logistical convenience rather than ecological suitability. It considered [REP7-202] that the applicant had moved to compensation without exhausting opportunities for avoidance or reduction. The applicant [REP2-014] stated that site selection avoided environmental designations where possible, but noted that it is not always possible to avoid all factors at the siting stage.

Suitability of site

4.5.122 The HRA Report (paragraphs 7.4.15 to 7.4.19, [REP7-119]) proposes the long-term management of arable land as mitigation. Several IPs maintained concerns regarding the suitability of the mitigation site throughout the examination.

4.5.123 KWT [RR-2980], [REP1-152] and the RSPB [REP1-158] queried whether proposed mitigation land was already functionally linked to the SPA, in which case it could not be used for mitigation. The applicant submitted a wintering bird survey report for the area [REP4-078]. It confirmed [REP2-013] that surveys recorded golden plovers flying adjacent to the site, with one overflying, but no significant use. The RSPB agrees in its SoCG [REP7-054] that based on the surveys undertaken, the mitigation land does not appear to currently be FLL. KWT did not comment further on the matter.

4.5.124 Concerns of potential lighting and noise disturbance at the mitigation site were raised by KWT [RR-2980], [REP1-152], [REP6-169], [REP6-240], CPRE Kent [REP1-147], [REP1-148] and SMM [REP2-103]. The applicant disputed that noise disturbance is a concern [REP2-014], [REP7-259]; noting that there are numerous examples of wintering waterfowl and wader populations being recorded in proximity to busy roads. It stated that most of the proposed mitigation land is unaffected by lighting and that there are dense tree belts screening fields from the business park.

4.5.125 The applicant [REP2-034] explained NE had proposed arable land as an acceptable alternative habitat on the basis that the habitat being lost is arable land (not wet grassland). However, RSPB Thanet [REP1A-061] and KWT [REP6-169] considered the land would not be a like-for-like replacement. KWT [REP1-152] noted that golden plover depend on expansive, open, and low-disturbance landscapes (such as wet grassland,

stubble fields and grazed pasture) for predator detection and flock cohesion. KWT [REP1-152], [REP6-240], [REP6-169] considered there to be an absence of evidence regarding the long-term viability of golden plover mitigation. It considered there to be no scientific certainty that the proposal would maintain habitat connectivity or support the SPA's qualifying populations. KWT maintained its position [REP7-265], stating that it did not share the applicant's reliance on NE's position as evidence that the matter is resolved. It acknowledged a small number of individuals might use the site opportunistically, but did not agree the mitigation land could reliably support the ecological function of the affected land to a degree that avoids AEoI.

4.5.126 CPRE Kent [REP2-045] considered the proposed development would fragment habitats functionally linked to the SPA. It considered [REP1-147], [REP1-148] it far from certain that golden plover would use the mitigation site as they need wide expanses of open landscape with a mix of habitat. It [REP6-238] maintained its position that the proposed mitigation would not truly replace the function of the existing FLL.

4.5.127 KCC [REP1-079] initially raised concerns that insufficient information was provided to demonstrate suitability of the mitigation, and that no surveys to understand current use had been carried out, but this matter is recorded as agreed in its unsigned SoCG [REP7-021].

Management and monitoring

4.5.128 KWT [REP1-152], [REP7-265], [REP7-202] noted a lack of information on how mitigation would be implemented, monitored or enforced, nor what corrective measures would be taken in the event of failure. It considered [REP1-152], [REP6-240], [REP6-169] that success should not be judged simply on whether golden plover use the site but by whether it supports an equivalent level of use to that recorded on the converter station and substation site. It advised that if monitoring demonstrates this is not achieved, adaptive management measures should be triggered to implement additional land.

4.5.129 Responding to ExQ3ECOL20, NE [REP6-249] provided recommendations for information required in the oLEMP – Kent, including the need for clearer wording on management options and timing, further clarity on the monitoring and feedback mechanism and remedial measures. The applicant amended the oLEMP – Kent [REP7-141] setting out the process for monitoring and if necessary, rectifying any mitigation. It includes an explicit target in terms of numbers of golden plovers and further details regarding the certainty of mitigation measures, reference to providing monitoring data to NE and local planning authorities, and how monitoring would inform remedial measures. The applicant [REP7-259] confirmed that the text had been shared with NE but understood that NE had some further comments. As such, it included an additional commitment with the REAC (B79, [REP7-359]) confirming that the detailed wording of management and monitoring prescriptions would be agreed with NE and Dover District Council (DDC) prior to the commencement of clearance of the Minster converter station and substation field. Details of the monitoring are provided in the oLEMP – Kent [REP7-

141], which notes that the survey methodology and feedback mechanism will be agreed with NE and DDC.

4.5.130 NE was unable to comment on the DL7 documents but recommended [REP7-277] a REAC commitment to prepare and agree a detailed management and monitoring plan for the golden plover mitigation land.

In-combination loss

4.5.131 KWT [RR-2980], [REP1-152], [REP6-169] and the RSPB [REP1-158] raised concerns regarding the cumulative loss of ~160ha of FLL from nearby solar farms.

4.5.132 The applicant [REP2-014], [REP2-034], [REP7-259] confirmed that the HRA Report [REP7-119] includes all projects identified by KWT and the RSPB. It concludes that the delivery of mitigation for loss of golden plover foraging habitat from the proposed development would ensure no net loss of habitat and thus avoid in-combination effects. The applicant noted it is the responsibility of other projects to deliver mitigation if required and that it is only required to mitigate for its own contribution to any in-combination effect.

ExA conclusion on loss of FLL (golden plover)

4.5.133 The ExA is satisfied that the applicant has identified suitable replacement land to offset the loss of FLL for golden plover and demonstrated that the land is within reasonable proximity to the site for the relevant species. It has identified management measures to ensure that it is suitable for golden plover. The ExA notes that NE is satisfied with the applicant's proposed mitigation.

4.5.134 The ExA is satisfied that the oLEMP [REP7-141] addresses NE's [REP7-277] concerns regarding the need for a management plan for the mitigation land. This is subject to approval by the relevant planning authority in consultation with the SNCB, allowing opportunity for amendment. This would be supplemented by REAC commitment B79, which commits the applicant to agreeing detailed management and monitoring prescriptions with NE and DDC prior to commencement of converter station and substation works. The ExA considers that these provisions allow for any adaptive management requirements to be agreed.

4.5.135 The ExA is satisfied that in providing replacement FLL it has mitigated its impact on FLL for golden plover and is therefore not contributing to a cumulative loss of FLL.

4.5.136 Overall, the ExA considers that when taking account of proposed mitigation measures, an AEoI due to the loss of FLL can be ruled out.

Collision risk

4.5.137 See paragraphs 4.5.48 to 4.5.51 above.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE TCSB SPA AND RAMSAR SITE

4.5.138 As noted in the preceding sections, the ExA is content that no LSE pathway would result in an AEoI of the TCSB SPA and Ramsar site from either the proposed development alone or in-combination with other plans or projects. The ExA's conclusions have taken into account the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site.

4.5.139 The ExA acknowledges that this conclusion conflicts with the advice of NE as the SNCB for several LSE pathways, but notes that NE was unable to comment on the final submissions received from the applicant which included additional mitigation controls and a revised dDCO that may have addressed these concerns. The ExA is satisfied the applicant has addressed the potential for AEoI for the reasons set out above. However, in light of the number of matters in disagreement and NE's concerns, the Secretary of State may wish to consult with NE regarding its final position on the applicant's submissions and satisfy itself that there is no need for a derogation in respect of effects on the TCSB SPA and Ramsar site.

B.4.6 MARINE ORNITHOLOGY SPAS

OTE SPA

4.6.1 The offshore cable would pass through an eastern section of the OTE SPA. The applicant's description of the site is presented in section 3.3 of the HRA Report [REP7-119]. The following LSE pathways are assessed for all qualifying features of the site:

- airborne sounds and visual disturbance from offshore works (paragraphs 7.3.53 to 7.3.61 and 7.3.93)
- indirect effects through impacts to prey species (paragraphs 7.3.66 to 7.3.80 and 7.3.93)

MITIGATION MEASURES AND COMMITMENTS

4.6.2 The applicant's assessment takes into account the measures detailed in table B.9 below.

Table B.9 Mitigation measures for the OTE SPA

Mitigation measure / commitment	Relevant control document	Securing mechanism(s)
RTD protocol[2]	oRTD protocol [REP7-142]	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO dDML condition 11(4) in schedule 16 of the dDCO
Full seasonal restriction between 1 November and 31 March for offshore cable burial activities in the OTE SPA and 2km buffer around the SPA	dDCO [REP7-002]	dDML condition 11(1) in schedule 16 of the dDCO
	oRTD protocol [REP7-142]	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO dDML condition 11(4) in schedule 16 of the dDCO
	oOCEMP (O03, [REP7-127])	dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO
Restriction on trenchless landfall installation on or under the seabed within the OTE SPA between 1 January and 31 March	dDCO [REP7-002]	dDML condition 11(2) in schedule 16 of the dDCO
	oRTD protocol [REP7-142]	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO dDML condition 11(4) in schedule 16 of the dDCO
	oOCEMP (O03, [REP7-127])	dDML conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO
Any compensation required post-emergency repair to be	oRTD protocol [REP7-142]	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO

[2] A best practice protocol to minimise the disturbance to non-breeding RTD during the construction, operation and decommissioning of the proposed development. An outline is provided in [REP7-142] and would be certified under Article 60 of the dDCO [REP7-002]). It includes mitigation measures O01 to O06 detailed in the oOCEMP [REP7-127] (which is secured through dDML Conditions 4(1)(b) and 4(4) in schedule 16 of the dDCO).

Mitigation measure / commitment	Relevant control document	Securing mechanism(s)
discussed with, and approved by, the MMO		dDML condition 11(4) in schedule 16 of the dDCO
Provision of a report on any emergency activities that take place within the OTE SPA and 2km buffer between November and March	oRTD protocol [REP7-142]	dDML conditions 4(1)(i) and 4(4) in schedule 16 of the dDCO dDML condition 11(4) in schedule 16 of the dDCO

RESOLVED MATTERS

4.6.3 Key matters which the ExA considers have been resolved during examination in respect of the assessment of effects on integrity on the OTE SPA are as follows:

- Airborne sounds and visual disturbance from offshore works:
    - The applicant extended from the spatial coverage of the cable laying seasonal restriction from the initially proposed OTE SPA boundary to include a 2km buffer. This addressed comments from NE [REP4-189], [REP4-193] and KWT [REP6-169].
    - Pre-lay grapnel runs were initially excluded from the seasonal cable laying restriction, however the applicant included them further to a request from NE (G2, [RR-3920]) (table 1, [REP4-193]).
    - The applicant included routine operational and maintenance activities (including monitoring surveys) within the seasonal restriction, unless otherwise agreed with the MMO in consultation with the SNCB. This was further to concerns from the JNCC [REP1-210], [REP3-090], NE (G2, G3, G4 and G9, [RR-3920]) (table 1, [REP4-193]), ExQ2MO2 in [REP5-199] and the MMO responding to ExQ2MO2 in [REP5-175].
    - Responding to NE's comments regarding emergency repairs (G3, [RR-3920]), ExQ1ECOL62 in [REP4-196], [REP6-247], the applicant included a definition of emergency cable repair works in Part 1 of the dDML in schedule 16 of the dDCO [REP7-002], the oRTD protocol (paragraph 1.5.14, [REP7-142]) and the oCSIP (paragraph 6.1.3, [REP7-159]). NE [REP7-275] advised that it was unclear whether the definition of emergency works had been agreed with the MMO. However, footnote 1 of the oRTD protocol [REP7-142] confirms the definition was provided by the MMO. The applicant also committed to providing NE with a report on any emergency activities that take place within the OTE SPA and 2km buffer between November and March; this is included in the oRTD protocol (paragraph 1.5.15, [REP7-142]).
    - Furthermore, in respect of emergency works, the applicant [REP7-192] explained it would be a competent authority for the purposes of the Habitats Regulations by reason of being a statutory undertaker and would undertake an appropriate assessment for emergency works

at that future point in time. The applicant amended the oRTD protocol (paragraph 1.5.16, [REP7-142]) to confirm that any requirement for compensation post emergency repair would be discussed with, and approved by, the MMO.

- Further to the ExA's suggested schedule of DCO changes [PD-024], the applicant revised the dDML in schedule 16 of the dDCO [REP7-002] to confirm that the RTD protocol is an outline plan and would be a certified document under Article 60 of the dDCO [REP7-002]. It requires approval of the MMO in consultation with the SNCB.
- The RSPB [REP1-158] requested a more detailed RTD protocol that addressed not only the construction phase but also operation, maintenance and decommissioning, and a detailed outline vessel management plan (VMP) concerning all phases of the proposed development to be presented in the examination. The oRTD protocol [REP7-142] was subsequently revised with additional information and confirms a VMP would be developed post-consent to avoid high density areas of RTD. The SoCG with the RSPB [REP7-054] confirms the matter as resolved.
- Several concerns were raised regarding the robustness of the applicant's in-combination assessment by the JNCC [REP1-210], [REP3-090], [REP6-239] and NE (G11 and G15, [RR-3920]) (table 1, [REP4-193]), [REP5-220], [REP6-247]. However, NE [REP7-275] confirmed that with the implementation of the seasonal restriction, an in-combination assessment is not required.

UNRESOLVED MATTERS

4.6.4 By the close of examination, NE [REP7-725] had confirmed it agreed the applicant's mitigation would avoid AEoI of the OTE SPA. However, the ExA considers the following matters to be unresolved for other IPs.

Baseline – RTD distribution

4.6.5 Throughout the examination, the RSPB [REP1-158], [REP7-054] did not consider the applicant had substantiated its claim that most of the offshore cable route passes through areas with limited or no recorded occurrence of RTD. It did not consider data from 2018 provides a sound basis for conclusions about longer term distribution patterns.

4.6.6 The applicant [REP2-034] (1ECOL53, [REP3-069]) acknowledged limitations to data available on RTD distribution within the SPA, however it considered that works would avoid areas where RTD densities are highest.

Airborne sounds and visual disturbance from offshore works

Temporal extension to the restriction

4.6.7 The RSPB [REP1-158] welcomed the proposed seasonal cable laying restriction. However, referencing NE's Advice on Seasonality for the OTE SPA, it noted that RTD is likely to be present in significant numbers from October to May and considered that any project-related vessel movements should avoid this period. Any project-related vessel movements required

between October and May should be subject to clearly detailed and practical bird avoidance measures set out in a detailed VMP.

4.6.8 The applicant [REP2-034] acknowledged RTD may be present in the months outside of its proposed seasonal restriction, however it considered November to March to be the core period when numbers are greatest and environmental conditions the toughest and therefore the period when disturbance would have a greater effect on individuals.

4.6.9 Whilst the final, signed SoCG with the RSPB [REP7-054] sets out the RSPB's position as being that vessel movements should be avoided from October to May, it shows the matter of the seasonal restriction as agreed.

Emergency repairs

4.6.10 NE [REP6-247] requested a commitment in the CSIP and other relevant plans to apply the RTD protocol during emergency works to minimise the impacts as much as possible. This commitment is not made in the final oCSIP [REP7-159] or oOCEMP [REP7-128]. The oRTD protocol [REP7-142] does not state that it would apply to emergency works, however it confirms that consultation would be undertaken with the MMO and NE during any emergency works to minimise disturbance as far as practicable.

Decommissioning

4.6.11 NE (G2, [RR-3920] advised that decommissioning be included in the seasonal cable laying restriction. The applicant [REP2-014] explained the predicted operational life of the cables is between 40 and 60 years, during which regulatory requirements and industry best practice could change. It did not know if the cable would be decommissioned or if options for extending the life would be explored. The applicant confirmed a decommissioning plan would be prepared post-consent and a programme submitted to the MMO for approval at least 6 months prior to decommissioning. NE (table 1, [REP4-193]) agreed the WCS for decommissioning could be like construction.

4.6.12 The oRTD protocol [REP7-142] confirms that the best practice measures set out in sections 1.5.4 to 1.5.5 would apply during the decommissioning phase. These measures do not include the seasonal cable laying restriction. Therefore, the ExA [PD-024] suggested a revision to the DCO to require the undertaker to comply with the oRTD protocol during decommissioning. The applicant did not make this amendment in its final dDCO [REP7-002].

Vessel speeds

4.6.13 Although NE [REP7-275] confirmed there would be no AEoI of the OTE SPA from impacts to RTD, it considered more could be done to minimise impacts in the shoulder months either side of the seasonally restricted period, when high numbers of RTD can be present. It advised an additional commitment in the oOCEMP and oRTD protocol [REP7-142] to keep the speed of all vessels no higher than 20 knots within the OTE SPA and 2km buffer from October to April and that this should apply to emergency works where feasible. The applicant was unable to respond to the request as the

examination closed. However, the HRA [REP7-119] confirms that cable laying vessel speeds are in the order of 0-7 knots and table 4.12 of ES part 1, Chapter 4 [REP7-089] and the oRTD protocol suggest a maximum 12 knot speed for installation vessels.

In-combination effects

4.6.14 The RSPB [REP1-158] raised concerns about in-combination impacts on RTD of the OTE SPA. At the close of examination, it noted [REP7-209] that the agreed seasonal restriction and additional detail in the oRTD protocol reduced its concerns. However, the SoCG [REP7-054] states that the RSPB does not agree an AEoI could be excluded from the proposed development in combination with other plans or projects. No further details of the specific concern were given.

EXA'S CONSIDERATION OF ADVERSE EFFECTS ON THE OTE SPA

4.6.15 At the close of examination, NE [REP7-275], [REP7-277] agreed that the mitigation secured would avoid AEoI of the OTE SPA, subject to inclusion of the 2km buffer within the DML. This was included in the applicant's final dDCO [REP7-002] and is retained within the ExA's rDCO.

4.6.16 The JNCC [REP6-239] also confirmed that subject to the full seasonal restriction on cable burial activities and non-emergency operation and maintenance activities, it was satisfied AEoI could be ruled out alone or in combination with other plans and projects.

4.6.17 The ExA has considered the applicant's oRTD protocol [REP7-142] and is satisfied that the seasonal restriction for construction and routine operation and maintenance works would avoid AEoI of the OTE SPA. The ExA does not consider that an extension to the seasonal restriction is required beyond that suggested by NE. It is content that the restriction addresses any concerns regarding RTD distribution data and that it would ensure the proposed development would not contribute to any in-combination effects.

4.6.18 The ExA considered whether there was potential for impacts on RTD due to emergency repair works, which are not licensable activities with the dDML in schedule 16 of the dDCO [REP7-002]) and not subject to the cable laying restrictions. It is persuaded that such an event may never occur and whilst it is hypothetically possible, the applicant would have no basis for an assessment. The ExA is therefore satisfied that a separate assessment of emergency effects is not required at this stage, but would be undertaken by the applicant, as a competent authority, at that future point in time.

4.6.19 NE [REP6-247] is content that every effort would be made to mitigate impacts to the SPA from emergency works and that should currently unknown impacts arise, there will be a process to address adverse effects at that time. The applicant has committed to discussing any compensation required post-emergency repair with the MMO. The ExA is not persuaded that this suggested mechanism is consistent with the derogation requirements under the Habitats Regulations. The ExA recommends that the

Secretary of State requests an updated version of the oRTD protocol [REP7-142] with this commitment removed.

4.6.20 On the basis that emergency works are not licensable activities within the dDML in schedule 16 of the dDCO [REP7-002]), the ExA does not consider it appropriate to amend relevant plans to commit to applying the RTD protocol to emergency works.

4.6.21 In respect of vessel speeds, the oRTD protocol [REP7-142] describes maximum transit speeds of installation vessels as being 12 knots. The ExA is satisfied that additional controls on vessel speeds are not required.

4.6.22 The ExA considers that for the avoidance of doubt, condition 11(1)(c) and (d) should be amended to remove references to specific methods of working, to ensure that other methods that are not referenced could be undertaken during the winter period.

4.6.23 In response to comments from IPs regarding decommissioning effects, the ExA has included wording in schedule 16, condition 11(4) of the rDCO to ensure that the RTD protocol applies to such activity.

4.6.24 The ExA has considered the assessment provided within the HRA Report [REP7-119], the above information, and the conservation objective to maintain or restore the extent, distribution, structure and function of qualifying species' habitats, the supporting processes on which the habitats rely, and the populations and distribution of qualifying species in the site. It is satisfied that there would be no AEoI of the OTE SPA from the proposed development alone or in-combination with other plans or projects.

B.4.7 AEOI ASSESSMENT OUTCOMES – SUMMARY

4.7.1 Sections 6.2 to 6.4 of the applicant's HRA Report [REP7-119] set out the LSE impact pathways taken forward for assessment at Stage 2. The applicant's HRA Report concluded that AEoI can be excluded for all European sites from the proposed development alone, or in-combination with other plans and projects.

4.7.2 Based on the findings of the examination, the ExA is satisfied that AEoI can be excluded for the following European sites as a result of the proposed development alone or in-combination with other plans and projects:

- Annex I habitat SACs
    - Alde-Ore and Butley Estuaries SAC
    - Margate and Long Sands SAC
    - Sandwich Bay SAC
    - Thanet Coast SAC
- Marine mammal SACs
    - Berwickshire and North Northumberland Coast SAC
    - Humber Estuary SAC

- SNS SAC
- The Wash and North Norfolk Coast SAC

- Terrestrial ornithology SPA and Ramsar sites
  - AOE SPA
  - AOE Ramsar site
  - Minsmere-Walberswick SPA
  - Minsmere-Walberswick Ramsar site
  - Sandlings SPA
  - Stodmarsh SPA
  - Stodmarsh Ramsar site
  - TCSB SPA
  - TCSB Ramsar site

- Marine ornithology SPAs
  - OTE SPA

B.5 HRA CONCLUSIONS

5.1.1 The proposed development is not directly connected with, or necessary to, the management of a European site, and therefore the implications of the project with respect to adverse effects on potentially affected sites must be assessed by the Secretary of State.

5.1.2 Nineteen European sites and their qualifying features were considered in the applicant's assessment of LSE: the sites are listed in table B.1 of this appendix. The ExA considers that there could be LSE for all the European sites from the proposed development alone and in-combination with other plans or projects, aside from the Stodmarsh SAC for which LSEs can be excluded.

5.1.3 The methodology and outcomes of the applicant's screening for LSEs on European sites was subject to discussion and scrutiny during the examination. This resulted in the inclusion of an additional site (the Alde-Ore and Butley Estuaries SAC) and additional LSE pathways.

5.1.4 The methodology and outcomes of the applicant's Stage 2 assessment were similarly discussed, resulting in additional mitigation measures and a revised dDCO. The ExA's findings are that, subject to the mitigation measures to be secured in the rDCO and its associated control documents, AEoI of all European sites can be excluded as a result of the proposed development alone or in-combination with other plans or projects.

5.1.5 The ExA considers that there is sufficient information before the Secretary of State to enable them to undertake an appropriate assessment to fulfil their duty under the requirements of The Habitats Regulations. However, HRA submissions and updated mitigation were provided at DL7 (which NE was unable to comment on) as highlighted above. Given the additional submissions and considering NE's disagreement regarding AEoI for the TCSB SPA and Ramsar site and use of hovercraft in Pegwell Bay, the

Secretary of State may wish to consult with NE regarding its final position on the applicant's submissions and satisfy itself that there is no need for a derogation in respect of effects on these sites.

Table B.10: Annex I habitat SACs

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Alde-Ore and Butley Estuaries SAC						
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Estuaries Mudflats and sandflats not covered by seawater at low tide	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	**LSE (O)**	n/a	**AEoI (O)**	No AEoI
Margate and Long Sands SAC						
Sandbanks which are slightly covered by sea water all the time	Temporary physical disturbance to benthic habitats and species (C, D)	No LSE	No LSE	n/a	n/a	No LSE
	Temporary increase in SSC and sediment deposition leading to increased turbidity and smothering effects (C, D)	**LSE**	No LSE	No AEoI	n/a	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Disturbance due to thermal emissions (O)	No LSE	No LSE	n/a	n/a	No LSE
Sandwich Bay SAC						
Embryonic shifting dunes Shifting dunes along the shoreline with (*Ammophila arenaria*) ("white dunes") Fixed dunes with herbaceous vegetation ("grey dunes") Dunes with Salix repens ssp. argentea *(Salicion arenariae)* Humid dune slacks	Changes to marine water quality during cable installation and cable lay from the use of drilling fluids (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Permanent loss of foraging habitat for qualifying features (O)	No LSE	Not disputed	n/a	n/a	No LSE
	Introduction and spread of INNS via the addition of cable protection (O)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Direct habitat loss (C)	No LSE	No LSE	n/a	n/a	No LSE
	Air quality (dust and exhaust emissions) (C, O, D)	No LSE	No LSE	n/a	n/a	No LSE

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Pollution (terrestrial - changes in water quality) (C, O, D)	**LSE (C – from frac out)** **No LSE (O & D)**	**LSE from frac out not disputed** **LSE from use of hoverport**	No AEoI	No AEoI	No AEoI
Stodmarsh SAC						
Desmoulin's whorl snail (*Vertigo moulinsiana*)	Disturbance (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	No LSE	n/a	n/a	No LSE
Thanet Coast SAC						
Reefs Submerged or partially submerged sea caves	Temporary physical disturbance to benthic habitats and species (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Temporary increase in SSC and sediment deposition leading to increased	**LSE (reefs only for changes in**	Not disputed	No AEoI	No AEoI	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	turbidity and smothering effects (C, D)	**SCC, both habitats for sediment deposition)**				
	Changes to marine water quality during cable installation and cable lay from the use of drilling fluids (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Introduction and spread of INNS via the addition of cable protection (O)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Disturbance due to thermal emissions (O)	No LSE	Not disputed	n/a	n/a	No LSE
	Pollution (terrestrial - changes in water quality) – from the use of the hoverport (C)	**N/A – not assessed by applicant in HRA Report**	**LSE from use of hoverport**	No AEoI	No AEoI	No AEoI

Table B.11: Marine mammal SACs

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Berwickshire and North Northumberland Coast SAC and Humber Estuary SAC						
Grey seal (*Halichoerus grypus*)	Underwater sound impacts (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Vessel collision risk (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Airborne sounds and visual disturbance (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Indirect effects through impacts to prey species (C, D)	No LSE	NE: Defer to the Centre for Environment Fisheries and Aquaculture Science (CEFAS)	n/a	n/a	No LSE
			MMO (in consultation with			

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
			CEFAS): No LSE			
Note – the other qualifying features of the Berwickshire and North Northumberland Coast SAC and Humber Estuary SAC are identified in sections 3.11 and 3.12 of the HRA Report [REP7-119], respectively. Due to the distance of the site from the proposed development, only grey seals are considered to be within the zone of influence of the proposed development. Other qualifying features are therefore not assessed, nor have been the subject of discussion during the examination.						
Southern North Sea SAC						
Harbour porpoise (*Phocoena phocoena*)	Underwater sound impacts (C, D)	**LSE**	NE: Not disputed	No AEoI	NE: No AEoI	No AEoI
			JNCC: No LSE		JNCC: No AEoI	
	Vessel collision risk (C, D)	**LSE**	NE: Not disputed	No AEoI	NE: Not disputed	No AEoI
			JNCC: No LSE		JNCC: No AEoI	
	Indirect effects through impacts to prey species (C, D)	No LSE	NE: Defer to CEFAS	n/a	n/a	No LSE
			MMO (in consultation with			

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
			CEFAS): No LSE			
			JNCC: No LSE			
	Permanent loss of foraging habitat for qualifying features	No LSE	NE: Not disputed	n/a	n/a	No LSE
			JNCC: Not disputed			
	Disturbance due to thermal emissions (O)	No LSE	NE: Not disputed	n/a	n/a	No LSE
			JNCC: Not disputed			
	Effects of EMF emissions (O)	**LSE**	NE: Not disputed	No AEoI	NE: Not disputed	No AEoI
			JNCC: Not disputed		JNCC: No AEoI	
The Wash and North Norfolk Coast SAC						
Harbour seal (*Halichoerus grypus*)	Underwater sound impacts (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Vessel collision risk (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Airborne sounds and visual disturbance (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Indirect effects through impacts to prey species (C, D)	No LSE	NE: Defer to CEFAS	n/a	n/a	No LSE
			MMO (in consultation with CEFAS): No LSE			
Note – the other qualifying features of the Wash and North Norfolk Coast SAC are identified in section 3.16 of the HRA Report [REP7-119]. Due to the distance of the site from the proposed development, only harbour seals are considered to be within the zone of influence of the proposed development. Other qualifying features are therefore not assessed, nor have been the subject of discussion during the examination.						

Table B.12: Terrestrial ornithology

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Alde-Ore Estuary SPA						
Ruff (*Philomachus pugnax*) Avocet (*Recurvirostra avosetta*) Redshank (*Tringa tetanus*) Marsh harrier (*Circus aeruginosus*) Lesser black-backed gull (*Larus fuscus*) Sandwich tern (*Sterna sandvicensis*) Little tern (*Sterna albifrons*) Breeding and wintering assemblages	Direct habitat loss (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Loss of FLL (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Disturbance (noise and visual) from onshore works (C, O, D)	No LSE to birds at the SPA itself **LSE – (C & D) marsh harrier and curlew using FLL**	Not disputed	No AEoI	Not disputed	No AEoI
	Airborne sounds and visual disturbance from offshore works (C, D)	**LSE – lesser black-backed gull, sandwich**	Not disputed	No AEoI	Not disputed	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
		tern and little tern				
	Indirect effects through impacts to prey species (C, D)	**LSE – lesser black-backed gull, sandwich tern and little tern**	Not disputed	No AEoI	Not disputed	No AEoI
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	**LSE (O)**	n/a	**AEoI (O)**	No AEoI
Alde-Ore Estuary Ramsar site						
Criterion 2 - The site supports a number of nationally-scarce plant species and British Red Data Book invertebrates	Direct habitat loss (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Loss of FLL (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
Criterion 3 - The site supports a notable assemblage of	Disturbance (noise and visual) from onshore works (C, D)	No LSE to birds at the SPA	Not disputed	No AEoI	Not disputed	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
breeding and wintering wetland birds Criterion 6 – species/populations occurring at levels of international importance (breeding lesser black-backed gull and non-breeding avocet and redshank		**LSE – (C & D) marsh harrier and curlew**				
	Airborne sounds and visual disturbance from offshore works (C, D)	**LSE – lesser black-backed gull**	Not disputed	No AEoI	Not disputed	No AEoI
	Indirect effects through impacts to prey species (C, D)	**LSE – lesser black-backed gull**	Not disputed	No AEoI	Not disputed	No AEoI
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	**LSE (O)**	n/a	**AEoI**	No AEoI
Minsmere-Walberswick SPA						
Great bittern (*Botaurus stellaris*) Gadwall (*Anas strepera*)	Direct habitat loss (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Loss of FLL (C, D)	No LSE	Not disputed	n/a	n/a	No LSE

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Eurasian teal (*Anas crecca*) Northern shoveler (*Anas clypeata*) Eurasian marsh harrier (*Circus aeruginosus*) Hen harrier (*Circus cyaneus*) Pied avocet (*Recurvirostra avosetta*) Little tern (*Sterna albifrons*) European nightjar (*Caprimulgus europaeus*) Greater white-fronted goose (*Anser albifrons albifrons*)	Disturbance (noise and visual) from onshore works (C, O, D)	**LSE – non-breeding birds and breeding marsh harrier at FLL (C&D)** No LSE (O)	Not disputed	No AEoI	Not disputed	No AEoI
	Airborne sounds and visual disturbance from offshore works (C, D)	**LSE – little tern only**	Not disputed	No AEoI	Not disputed	No AEoI
	Indirect effects through impacts to prey species (C, D)	**LSE – little tern only**	Not disputed	No AEoI	Not disputed	No AEoI
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Minsmere-Walberswick Ramsar site						
Ramsar criterion 1 - The site contains a mosaic of marine, freshwater, marshland and associated habitats, complete with transition areas in between. Contains the largest continuous stand of reedbeds in England and Wales and rare transition in grazing marsh ditch plants from brackish to fresh water Ramsar criterion 2 - This site supports nine nationally scarce plants and at least 26 red data book invertebrates. Supports a population	Direct habitat loss (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Loss of FLL (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Disturbance (noise and visual) from onshore works (C, O, D)	**LSE – white-fronted goose (C&D)** No LSE (O)	Not disputed	No AEoI	Not disputed	No AEoI
	Airborne sounds and visual disturbance from offshore works (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Indirect effects through impacts to prey species (C, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
of the mollusc Vertigo angustior An important assemblage of rare breeding birds associated with marshland and reedbeds						
Sandlings SPA						
Nightjar (*Caprimulgus europaeus*) Woodlark (*Lullula arborea)*	Direct habitat loss (C)	No LSE	Not disputed	n/a	n/a	No LSE
	Air quality (dust and exhaust emissions)	**LSE (C, D) from dust only** No LSE (O)	Not disputed	No AEoI	Not disputed	No AEoI
	Loss of FLL (C, D)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Disturbance (noise and visual) from onshore works	**LSE (C, D)** No LSE (O)	Not disputed	No AEoI	**Not clear**	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE
Stodmarsh SPA						
Great bittern (*Botaurus stellaris*) (wintering) Gadwall (*Anas Strepera*) (wintering and breeding) Northern shoveler (*Anas clypeata*) (wintering) Hen harrier (*Circus cyaneus*) (wintering) Waterbird assemblage Breeding bird assemblage	Loss of FLL (O)	No LSE	Not disputed	n/a	n/a	No LSE
	Disturbance (noise and visual) from onshore works (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Collision risk (O)	**LSE**	**LSE**	No AEoI	No AEoI	No AEoI
Stodmarsh Ramsar site						
Ramsar Criterion 2 - 6 British Red Data Book	Loss of FLL (O)	No LSE	Not disputed	n/a	n/a	No LSE

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
wetland invertebrates 2 nationally rare plants, and 5 nationally scarce species and a diverse assemblage of rare wetland birds: gadwall (*Anas strepera*), great bittern (*Botaurus stellaris*), northern shoveler (*Anas clypeata*) and hen harrier (*Circus cyaneus*)	Disturbance (noise and visual) from onshore works (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Pollution (terrestrial - changes in water quality) (C, O, D)	No LSE	Not disputed	n/a	n/a	No LSE
	Collision risk (O)	**LSE – for bird species**	Yes	No AEoI	No AEoI	No AEoI
Thanet Coast and Sandwich Bay SPA						
European golden plover (*Pluvialis apricaria*) (non-breeding)	Changes to marine water quality during cable installation and cable lay from the use of drilling fluids (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Ruddy turnstone (*Arenaria interpres*) (non-breeding) Little tern (*Sterna albifrons*) (breeding)	Airborne sounds and visual disturbance from offshore works (C, D)	**LSE**	Not disputed	No AEoI	**AEoI**	No AEoI
	Indirect effects through impacts to prey species (C, O, D)	**LSE (construction phase)**	Not disputed	No AEoI	**AEoI**	No AEoI
	Direct habitat loss (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Disturbance (noise and visual) from onshore works (C, O, D)	**LSE (C, D) – noise** No LSE (C, D) – visual No LSE (O)	Not disputed	No AEoI	Not disputed	No AEoI
	Pollution (terrestrial - changes in water quality) (C, O, D)	**LSE (C: for frac out)** No LSE (O&D)	**LSE from frac out not disputed** **Also LSE from use of hoverport**	No AEoI	No AEoI from frac out **Unclear from use of hoverport**	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Loss of FLL (O)	**LSE (O) – golden plover**	**LSE** (but consider it a construction phase impact)	No AEoI	No AEoI	No AEoI
	Collision risk (O)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Air quality (dust and exhaust emissions) (C, O, D)	No LSE	No LSE for operational air quality C and D not disputed	n/a	n/a	No LSE
Thanet Coast and Sandwich Bay Ramsar site						
Ramsar Criterion 2 - supports 15 British Red Data Book wetland invertebrates	Changes to marine water quality during cable installation and cable lay from the use of drilling fluids (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Ramsar Criterion 6 - species/ populations occurring at levels of international importance – ruddy turnstone (*Arenaria interpres*)	Airborne sounds and visual disturbance from offshore works (C, D)	**LSE**	Not disputed	No AEoI	**AEoI**	No AEoI
	Indirect effects through impacts to prey species (C, O, D)	**LSE**	Not disputed	No AEoI	**AEoI**	No AEoI
	Direct habitat loss (C)	**LSE**	Not disputed	No AEoI	No AEoI	No AEoI
	Disturbance (noise and visual) from onshore works (C, O, D)	**LSE (C, D) – noise for Criterion 6** No LSE (C, D) – visual No LSE (O)	Not disputed	No AEoI	Not disputed	No AEoI
	Pollution (terrestrial - changes in water quality) (C, O, D)	**LSE (C: for frac out)** No LSE (O&D)	**LSE from frac out not disputed** **Also LSE from use of hoverport**	No AEoI	No AEoI from frac out **Unclear from use of hoverport**	No AEoI

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Loss of FLL (O)	**LSE (O) – golden plover**	**LSE** (but consider it a construction phase impact)	No AEoI	No AEoI	No AEoI
	Collision risk (O)	**LSE – Criterion 6**	Not disputed	No AEoI	No AEoI	No AEoI
	Air quality (dust and exhaust emissions) (C, O, D)	No LSE	No LSE for operational air quality C and D not disputed	n/a	n/a	No LSE

Table B.13: Offshore ornithology

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
Outer Thames Estuary SPA						
Red-throated diver *(G. Stellata)* Common tern *(Sterna hirundo)* Little tern *(Sternula albifrons)*	Direct habitat loss (C, O)	No LSE	NE: Not disputed	n/a	n/a	No LSE
			JNCC: Not disputed	n/a	n/a	
	Loss of FLL (C, D)	No LSE	NE: Not disputed	n/a	n/a	No LSE
			JNCC: Not disputed	n/a	n/a	
	Disturbance (noise and visual) from onshore works (C, D)	No LSE	NE: Not disputed	n/a	n/a	No LSE
			JNCC: Not disputed	n/a	n/a	
	Airborne sounds and visual disturbance from offshore works (C, O, D)	**LSE**	NE: Not disputed	No AEoI	NE: No AEoI	No AEoI
			JNCC: Not disputed		JNCC: No AEoI	

European site / qualifying feature	Potential impact	LSE (alone or in combination)?		AEoI (alone or in combination)?		ExA conclusion
		Applicant's conclusion	ANCB conclusion	Applicant's conclusion	ANCB conclusion	
	Indirect effects through impacts to prey species (C, D)	**LSE**	NE: Not disputed	No AEoI	NE: Not disputed	No AEoI
			JNCC: Not disputed		JNCC: No AEoI	
	Permanent loss of foraging habitat for qualifying features	No LSE	NE: No LSE	n/a	n/a	No LSE
			JNCC: Not disputed			