



Department for  
Business, Energy  
& Industrial Strategy

# CLEVE HILL SOLAR PARK

Record of the Habitats Regulations Assessment  
undertaken under Regulation 63 of the Conservation  
of Habitats and Species Regulations 2017



May 2020

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# 1. Introduction

## Background

- 1.1 This is a record of the Habitats Regulations Assessment (“HRA”) that the Secretary of State for Business, Energy and Industrial Strategy has undertaken under the Conservation of Habitats and Species Regulations 2017<sup>1</sup> (“the Habitats Regulations”) and relevant parts of the Birds Directive<sup>2</sup> in respect of the Development Consent Order (“DCO”) and Deemed Marine Licence for Cleve Hill Solar Park and its associated infrastructure (the “Project”). For the purposes of these Regulations the Secretary of State is the competent authority.
- 1.2 The Applicant is Cleve Hill Solar Park Ltd. The Project is described in more detail in section two but in summary will comprise the construction, operation, maintenance and decommissioning of a solar photovoltaic (“PV”) array with either an electrical storage facility or an extension to the solar PV array, together with connection infrastructure and other Associated Development. Both the solar PV array and the energy storage facility would have a capacity of greater than 50MW.
- 1.3 The Project constitutes a nationally significant infrastructure project (“NSIP”) as defined by section 14(1)(a) and section 15 of the Planning Act 2008 as it is for an onshore generating station of over 50MW.
- 1.4 The Project was accepted by the Planning Inspectorate (“PINS”) for examination on 14 December 2018 and a two-member Panel of Inspectors (“the Panel”) was appointed as the Examining Authority (“ExA”) for the application. An additional member was appointed after a review of the application following a preliminary meeting. The examination of the Project application began on 30 May 2019 and was completed on 30 November 2019. The Panel submitted its report of the examination, including its recommendation (“the ExA’s Report”), to the Secretary of State on 28 February 2020.

## Habitats Regulations Assessment

- 1.5 Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and Council Directive 2009/147/EC on the conservation of wild birds (“The Birds Directive”) aim to ensure the long-term conservation of certain species and habitats by protecting them from possible adverse effects of plans and projects.
- 1.6 The Habitats Directive provides for the designation of sites for the protection of habitats and species of Natura 2000 importance. These sites are called Special Areas of Conservation (“SACs”). The Birds Directive provides for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species within Europe. These sites are called Special Protection Areas (“SPAs”). SACs and SPAs are collectively termed Natura 2000 sites and form part of a network of protected sites across Europe.
- 1.7 The Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”) provides for the listing of wetlands of international importance. These sites are called Ramsar sites. Government policy is to afford Ramsar sites in the United Kingdom the same protection as Natura 2000 sites.

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<sup>1</sup> The Conservation of Habitats and Species Regulations 2017. SI 2017/1012.

<sup>2</sup> Council Directive 2009/147/EC of 3 November 2009 on the conservation of wild birds

- 1.8 In the UK, the Habitats Regulations and the Wildlife and Countryside Act 1981 transpose the Habitats and Birds Directives into national law as far as the 12 nautical mile (nm) limit of territorial waters.
- 1.9 Regulation 63 of the Habitats Regulations provides that: “...before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, [the competent authority] must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives.” It also provides that: “In the light of the conclusions of the assessment, and subject to regulation 64 [IROPI], the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).”
- 1.10 This application is not directly connected with, or necessary to, the management of a Natura 2000 site. The Habitats Regulations require the Secretary of State to consider whether the project is likely to have a significant effect (“LSE”) on any such site, alone or in-combination with other plans and projects. Where the potential for LSE cannot be excluded, an appropriate assessment (“AA”) of the implications of the project for that site in view of its conservation objectives must be completed. In light of that, the Secretary of State must determine whether or not the project will have an adverse effect on the integrity (“AEol”) of the site(s). In this document, the first stage assessment as to whether there is LSE at a site and, where required, the second stage assessment (“the AA”) to determine whether there is AEol of the site, are collectively referred to as the HRA. The HRA refers only to sites within UK jurisdiction.
- 1.11 The Secretary of State’s conclusions on habitats and wild bird issues contained in this report have been informed by evidence from the application and examination which are available on the Planning Inspectorate’s National Infrastructure Planning web pages<sup>3</sup>. Key information from these documents is summarised and referenced in this report. In particular:
- The ExA’s Report
  - The Report on the Implications for European Sites (“RIES”) [PD-010<sup>4</sup>] and written responses
  - The Report to Inform Appropriate Assessment (“RIAA”) [REP7-011, unless otherwise stated]
  - The Applicant’s Environmental Statement (“Environmental Statement”)
  - The Applicant’s Statement of Common Ground (“SoCG”) with Natural England (“NE”) (NE SoCG) [APP-256], [AS-050] and [REP4-039]
  - The Applicant’s SoCG with Kent Wildlife Trust (“KWT”) [REP17-009]

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<sup>3</sup> <https://infrastructure.planninginspectorate.gov.uk/projects/south-east/cleve-hill-solar-park/>

<sup>4</sup> Individual document references to the Examination Library in this Report are enclosed in square brackets ‘[...]’. For this reason, this Report does not contain extensive summaries of all documents and representations, although the Secretary of State has given full regard to them and has considered all important and relevant matters arising from them. A full index to the Examination Library can be found at Appendix A of the ExA Report.

## **Report on the Implications for European Sites and Statutory Consultation**

- 1.12 Under the Habitats Regulations the competent authority must, for the purposes of an AA, consult the appropriate nature conservation body and have regard to any representation made by that body within such reasonable time as the authority specifies. NE is the Statutory Nature Conservation Body (“SNCB”) for England and for English waters within the 12 nm limit.
- 1.13 The ExA prepared a RIES with support from the Planning Inspectorate’s Environmental Services Team. The RIES was based on matrices provided by the Applicant and relevant information provided by Interested Parties (“IPs”). The RIES compiles, documents and signposts information provided within the DCO application, and the information submitted throughout the Examination by both the Applicant and IPs, up to and including Deadline 6 of the Examination (4 October 2019) in relation to potential effects on Natura 2000 sites, and presents the ExA’s understanding of the main facts regarding the HRA to be carried out by the Secretary of State.
- 1.14 The RIES was published on the PINS National Infrastructure planning portal website and the ExA notified IPs that it had been published. Consultation on the RIES was undertaken between 23 October 2019 and 13 November 2019. The RIES was issued to ensure that IPs, including NE, were consulted formally on habitat regulations matters, as required under regulation 61(3) of the Habitats Regulations. Comments on the RIES were received from The Applicant [REP7-031], NE [REP7-109], Faversham and Swale East Branch Labour Party [REP7-089] and an IP, Mr Ledger [REP7-117]. The ExA took account of these representations in its report and the RIES was not updated following consultation. NE’s view was that the RIES sets out an accurate presentation of the advice it provided during the Examination [REP7-109].
- 1.15 The Secretary of State is content to accept the ExA’s recommendation that the RIES, and consultation on it, represents an appropriate body of information to enable the Secretary of State to fulfil his duties in respect of Natura 2000 sites.

## 2. Project Description

### Project Infrastructure

- 2.1 The total area covered by the Project is 491.2ha. The Project comprises:
- A ground-mounted solar PV generating station with a gross electrical output capacity of more than 50MW comprising arrays of panels fitted to mounting structures fixed to the ground by piles, inverters, transformers, and a network of underground cables.
  - An energy storage facility with a gross storage capacity of more than 50MW along with a flood protection bund, transformers, switch gear, underground cables, a construction compound, and landscaping.
  - A substation enclosed within a flood protection bund, with a network of underground cable circuits to connect the substation to the array, the storage facility, and an existing substation.
  - A network of cable circuits, construction compounds, landscaping, earthworks, drainage, and the undergrounding of existing overhead line.
  - A means of access to an existing highway.
  - Habitat management areas.
  - The maintenance of an existing coastal flood defence.
- 2.2 Full details of the infrastructure to be used in the Development are detailed in Part 1 Schedule 1 of the DCO.
- 2.3 The Applicant seeks consent for up to two generating stations, each one an NSIP in its own right. The first is the main solar PV array with a gross electrical output capacity of more than 50MW. Flexibility is sought for the second to be either a battery-based energy storage facility with a gross storage capacity of more than 50MW or an extension to the main solar PV array. The Applicant expects energy storage to be an important and viable part of the Project by the start of construction but seeks flexibility in any DCO to permit additional solar PV panels on the land identified for the energy storage facility should this prove not to be the case. Should the battery storage option be constructed, the connection to the National Electricity Transmission System would be an import and export connection to facilitate the charging of the energy storage facility from external sources.

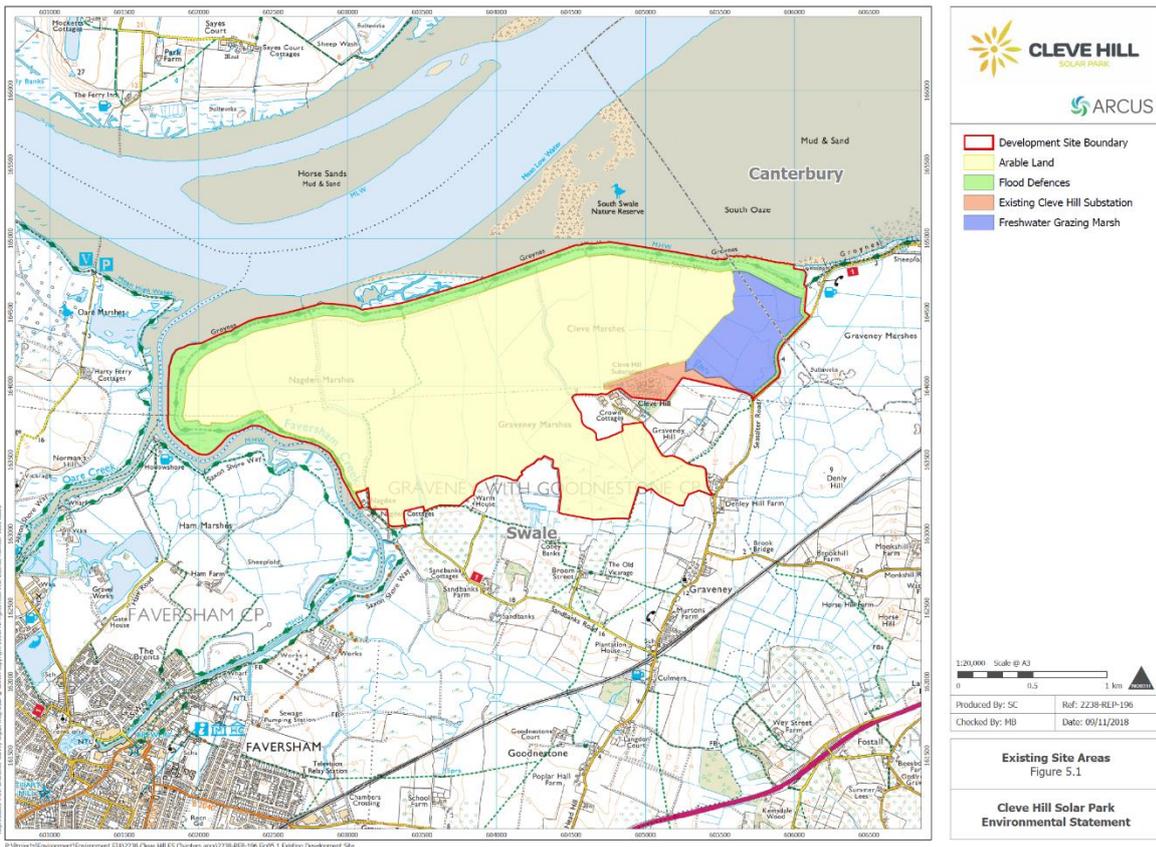
### Project Location

- 2.4 Figure 1 shows the Project location. The area is known as Cleve Hill and is shown on Ordnance Survey maps as Nagden, Cleve and Graveney Marshes. The centre lies approximately 2km north-east of Faversham and 5km west of Whitstable on the north Kent coast. It is in the administrative districts of Swale Borough Council and Canterbury City Council within the administrative county of Kent and is wholly in England.
- 2.5 Figure 2 shows the existing site use. Arable land accounts for approximately 387.6ha of the development site. The area also includes an existing coastal flood defence and the existing Cleve Hill substation. The area of freshwater grazing marsh included in the Project site comprises approximately 35.1ha of land to the east of the main development area, between the arable land to the west, Seasalter Road to the east and the existing coastal flood defences to the north. The freshwater grazing marsh forms part of the Swale Site of Special Scientific Interest, the Swale SPA and the Swale Ramsar site. There is an almost complete strip of at least 50m of freshwater grazing marsh on the landward side of the coastal flood defence structure, except in the south-western part of the Project site where the arable land abuts it.

Figure 1: Project location [APP-050: Figure 1.1]



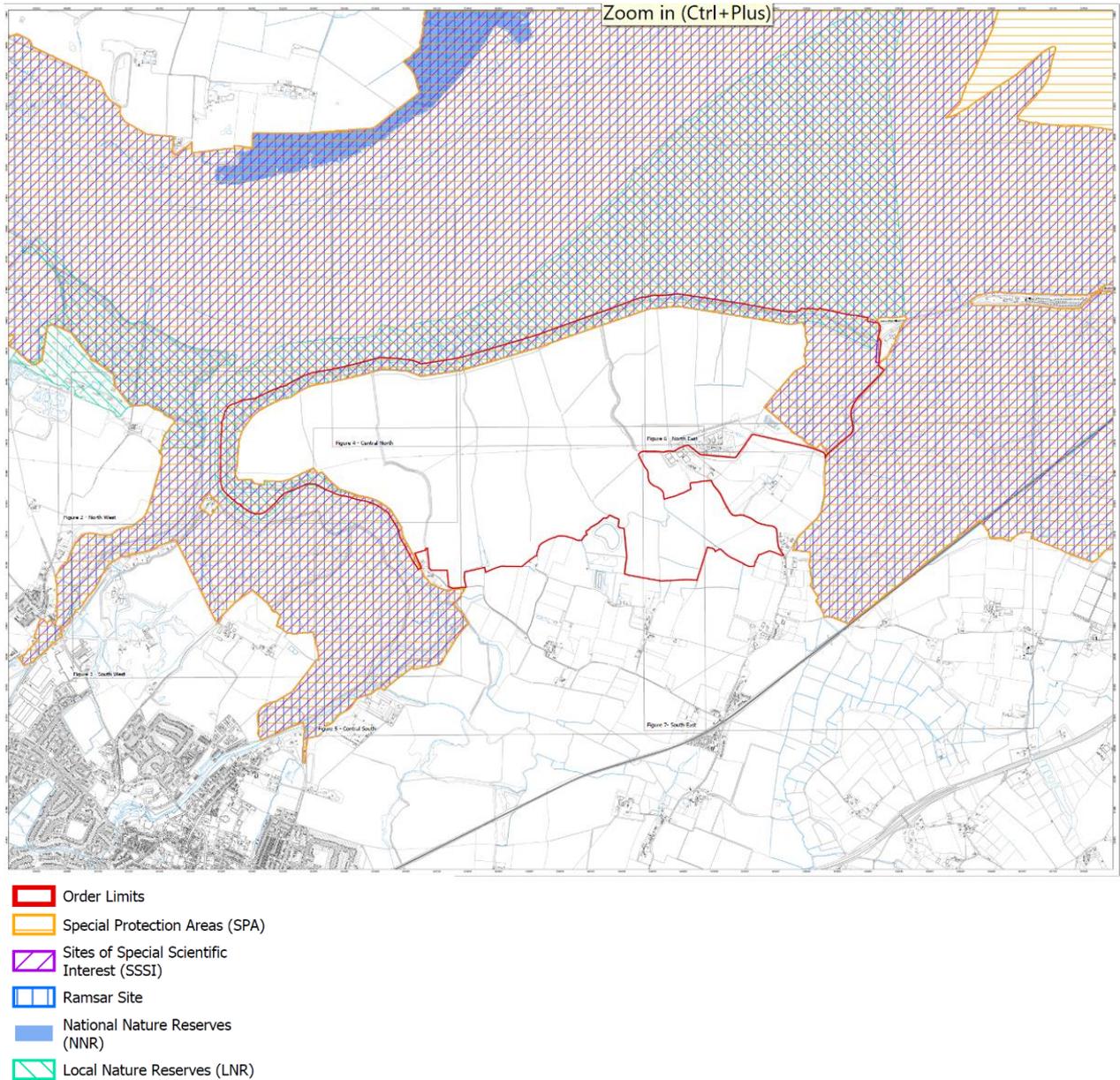
Figure 2: Existing site use [APP-053: Figure 5.1].



### Designated Sites

2.6 The Project Site includes land close to a number of internationally, nationally, and locally designated sites of biodiversity value. As illustrated in Figure 3, the northern, eastern, and western extents of the Project site include areas that are part of The Swale SPA and Swale Ramsar site.

**Figure 3: Project location in relation to Natura 2000 sites [APP-009: Figure 1]**



2.7 The part of the Project site that would be affected by the physical development was found to be used by a number of species that are qualifying features of The Swale SPA and the Swale Ramsar site. While the land itself was not part of the designated areas, it was identified as functionally linked land that was used at times by the SPA species [ExA: 7.3.14].

### 3. Likely Significant Effects Test

- 3.1 Under regulation 63 of the Habitats Regulations the Secretary of State must consider whether a development will have an LSE on a Natura 2000 site, either alone or in combination with other plans or projects. Where significant effects are likely and are not directly connected with or necessary to the management of that site, an AA is required of the implications of the plan or project for that site in view of its conservation objectives.
- 3.2 The purpose of this section of the HRA is to identify any LSEs on Natura 2000 sites that may result from the project and to record the Secretary of State's conclusions on the need for an AA.
- 3.3 The Applicant identified all Natura 2000 sites within 5km of the Project site. Beyond this distance, the Applicant considered there was no pathway for effects on qualifying features of Natura 2000 sites of non-avian interest [REP7-011]. Noting that birds can be highly mobile, the Applicant also identified Natura 2000 sites within 10km of the Project Site that are designated for avian interest. The Applicant considered that birds originating from Natura 2000 sites beyond 10km were not likely to visit the Project Site or its adjacent habitats at a level of frequency where the effects of the Project would cause a material change in their ability to survive or reproduce. Therefore, the Applicant considered that significant effects would not be likely to occur on Natura 2000 sites of avian interest located more than 10km from the Project Site [REP7-011 and APP-039]. NE agreed that the 5km and 10km search areas were appropriate [APP-256: Table 4].
- 3.4 In light of the European Court of Justice ("ECJU") ruling in *'People Over Wind and Peter Sweetman v Coillte Teoranta'*, the Applicant confirmed in paragraph 19 of the RIAA [REP7-011] that mitigation measures had not been taken into account in assessing LSE. This position was reiterated by the Applicant in [REP2-072].
- 3.5 A total of five Natura 2000 sites were screened for LSE by the Applicant. Of these sites, the Applicant concluded [APP-026] that there is potential for LSE, either alone or in-combination with other plans or projects, on the qualifying features of two Natura 2000 sites: The Swale SPA and Ramsar sites. The SoCG between the Applicant and NE [AS-050: Table 3] confirmed that NE was satisfied that all other statutorily designated nature conservation sites could be screened out as not being significantly affected by the proposal. NE also confirmed that the Applicant had identified the correct qualifying features and assemblage component species of The Swale SPA and Ramsar site ([RR-826]; [APP-256: Table 4]; [AS-050 Table 3]; [REP2-096]).
- 3.6 The ExA confirmed that that no concerns were raised by Interested Parties in relation to the Applicant's identification of Natura 2000 sites or qualifying features [ExA: 9.4.11]. The ExA confirmed the Applicant had correctly identified all the relevant Natura 2000 sites and qualifying features and interests for consideration [ExA: 9.4.14] and that all potential impacts on Natura 2000 sites had been identified and assessed by the Applicant in the RIAA [ExA: 9.6.11].
- 3.7 The Secretary of State is satisfied that all the relevant Natura 2000 sites and relevant qualifying features were identified for consideration. The RIAA provides further information on sites and features which were considered by the Applicant but for which IPs and the ExA agree there is not likely to be a significant effect. The Secretary of State is satisfied to adopt the rationale and conclusions of the ExA for those sites and features screened out of the LSE assessment and has not duplicated this assessment here.

### Likely Significant Effects

3.8 The Applicant concluded that there is potential for LSEs, either alone or in-combination with other plans or projects, on the qualifying features of The Swale SPA and The Swale Ramsar site [REP7-011]. Table 1 summarises the sites and features for which LSEs cannot be excluded.

**Table 1: Natura 2000 sites and features for which LSEs cannot be excluded** [RIES: Table 3.1].  
C = construction; O = operations and maintenance; D = decommissioning

Designated Site	Qualifying feature/s	Impact/s	Alone	In-combination
The Swale SPA	Brent Goose (non-breeding)	Noise/ visual disturbance (C and D) Loss/ change in habitats (C and O) Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Dunlin (non-breeding)	Noise/ visual disturbance (C and D) Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Breeding bird assemblage	Noise/ visual disturbance (C and D) Loss/ change in habitats (C and O) – marsh harrier component species only Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Wintering bird assemblage (non-breeding)	Noise/ visual disturbance (C and D) Loss/ change in habitats (C and O) – brent goose, lapwing and golden plover only Hydrological changes (C and D) Dust emissions (C and D)	X	X
The Swale Ramsar	Criterion 2 – at least seven British Red Data Book invertebrate species	Hydrological changes (C and D) Dust emissions (C and D).	X	
	Criterion 5 – wintering waterfowl assemblage	Noise/ visual disturbance (C and D) Loss/ change in habitats (C and O) – brent goose, lapwing and golden plover only Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Criterion 6 – redshank (non-breeding)	Noise/ visual disturbance (C and D) Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Criterion 6 – brent goose (non-breeding)	Noise/ visual disturbance (C and D) Loss/ change in habitats (C and O) Hydrological changes (C and D) Dust emissions (C and D)	X	X
	Criterion 6 – grey plover (non-breeding)	Noise/ visual disturbance (C and D) Hydrological changes (C and D) Dust emissions (C and D)	X	X

### Conclusions

- 3.9 The Secretary of State has considered the potential effects of the Project on all relevant sites and features to determine whether there is potential for LSE from the Project either alone or in combination with other relevant plans and projects. The Secretary of State considers that sufficient information has been provided to inform a robust assessment in line with his duties under the Habitats Regulations.
- 3.10 The Secretary of State notes the agreement between the Applicant and NE in their SoCG that all correct qualifying features have been identified and that no other Natura 2000 sites are relevant. He notes the ExA's recommendation that all relevant potential impacts have been assessed by the Applicant and that the Applicant has correctly identified all of the relevant Natura 2000 sites and the relevant qualifying features. The Secretary of State is therefore satisfied that all the relevant Natura 2000 sites and relevant qualifying features have been considered.
- 3.11 The Secretary of State is satisfied to rely on the advice of NE, the recommendations of the ExA, the RIES, and written responses to it to inform his view. He considers that the evidence behind these judgements has been fully tested as part of the examination process.
- 3.12 Having given due consideration to the information and analysis presented to him, the Secretary of State agrees with the findings of the Applicant, the advice of NE and the recommendations of the ExA and concludes that LSEs cannot be excluded for the Swale SPA and Swale Ramsar features listed in Table 1. These sites and features are now taken forward to the AA stage to consider whether the effects of the Project, either alone or in-combination with other plans or projects, would result in an adverse effect upon the integrity of these sites.

## 4. Appropriate Assessment

### Methodology

- 4.1 The requirement to undertake an AA is triggered when a competent authority, in this case the Secretary of State, determines that a plan or project is likely to have a significant effect on a Natura 2000 site either alone or in-combination with other plans or projects. Guidance issued by the European Commission states that the purpose of an AA is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in combination with other plans and projects, and that the conclusions should enable the competent authority to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus is therefore specifically on the species and/or habitats for which the Natura 2000 site is designated.<sup>5</sup>
- 4.2 The purpose of this AA is to assess the implications of the Project in respect of the conservation objectives of the two Natura 2000 sites where LSEs have been identified to ascertain whether the Project will adversely affect the integrity of those sites. It aims to use the best scientific evidence available to identify all aspects of the Project which can, either individually or in combination with other plans or projects, affect those conservation objectives.
- 4.3 If the competent authority cannot ascertain the absence of an AEoI without reasonable scientific doubt, then under the Habitats Regulations, alternative solutions should be sought. In the absence of an acceptable alternative, the project can proceed only if there are imperative reasons of overriding public interest ("IROPI") and suitable environmental compensation measures are secured.

### Conservation Objectives

- 4.4 Guidance from the European Commission indicates that disturbance to a species or deterioration of a Natura 2000 site must be considered in relation to the integrity of that site and its conservation objectives<sup>6</sup>. Section 4.6.4 of that guidance defines site integrity as: "...the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated".
- 4.5 Conservation objectives outline the desired state for a Natura 2000 site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a 'favourable condition'. An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation.
- 4.6 There are no set thresholds at which impacts on site integrity are considered to be adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale, and significance of the impact. Conservation objectives have been used by the Secretary of State to consider whether the Project has the potential for having an AEoI, either alone or in-combination.
- 4.7 The Secretary of State considers there to be a LSE at the Swale SPA and Ramsar site requiring an AA to be undertaken to assess the implications of the Project and determine whether there is potential for AEoI at these sites.

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<sup>5</sup> "Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", European Commission (2018), paragraph 4.6.1

<sup>6</sup> Ibid., paragraph 4.6.3

## Appropriate Assessment: The Swale SPA and Ramsar

- 4.8 The Swale SPA is located on the south side of the outer part of the Thames Estuary in south-eastern England. The Swale is an estuarine area that separates the Isle of Sheppey from the Kent mainland. To the west it adjoins the Medway Estuary. It is a complex of brackish and freshwater, floodplain grazing marsh with ditches, and intertidal saltmarshes and mud flats. The intertidal flats are extensive, especially in the east of the site, and support a dense invertebrate fauna. These invertebrates, together with beds of algae and Eelgrass are important food sources for waterbirds. The wide diversity of coastal habitats found on the Swale combine to support important numbers of waterbirds throughout the year. In summer, the site is of importance for Marsh Harrier, breeding waders and Mediterranean Gull. In spring and autumn migration periods, as well as during winter, the Swale supports very large numbers of geese, ducks and waders (Stroud et al. 2001<sup>7</sup>).
- 4.9 NE published conservation objectives for the Swale SPA in 2019<sup>8</sup>. These are set out in Table 2, below. NE published the 2019 version after the Applicant had submitted its application however the updates do not materially change the conservation objectives of the Swale SPA. This position was set out in the RIES and no comments were made by any IP [ExA: 9.7.3].

**Table 2: Conservation Objectives for the Swale SPA**

<b>Conservation Objectives</b>	<p>With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features'), and subject to natural change:</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> <li>•The extent and distribution of the habitats of the qualifying features</li> <li>•The structure and function of the habitats of the qualifying features</li> <li>•The supporting processes on which the habitats of the qualifying features rely</li> <li>•The population of each of the qualifying features, and,</li> <li>•The distribution of the qualifying features within the site.</li> </ul>
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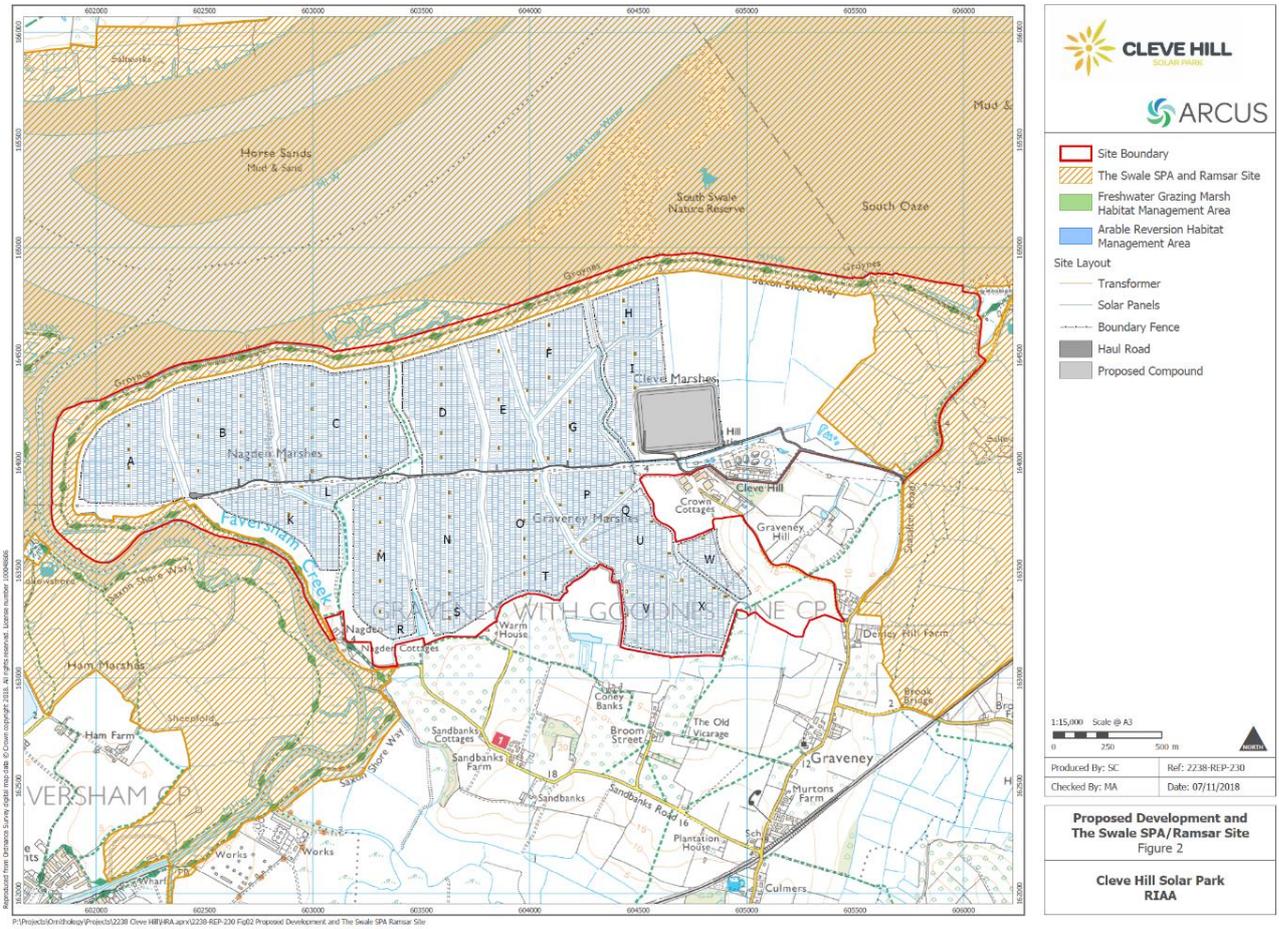
- 4.10 The Swale Ramsar Information Sheet<sup>9</sup> describes the site as a complex of brackish and freshwater, floodplain grazing marsh with ditches, and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. Rare wetland birds breed in important numbers. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates.
- 4.11 The boundaries of the Swale SPA and Swale Ramsar site are coincident. The location of the Project in relation to these sites is shown in Figure 4. The Project site along its west, north and eastern boundaries partially includes the SPA and Ramsar sites, though these areas would not be subject to the development of solar arrays nor the electricity substation or battery compounds.

<sup>7</sup> Stroud, D.A., Chambers, D., Cook, S., Buxton, N., Fraser, B., Clement, P., Lewis, P., McLean, I., Baker, H. & Whitehead, S. (eds.) (2001). The UK SPA Network: its Scope and Contents. JNCC, Peterborough.

<sup>8</sup> <http://publications.naturalengland.org.uk/publication/5745862701481984>

<sup>9</sup> <https://rsis.ramsar.org/RISapp/files/RISrep/GB299RIS.pdf>

Figure 4 Project location in relation to The Swale SPA and Ramsar site [APP-026: Figure 2]



4.12 LSEs upon the interest features of the Swale SPA and Ramsar were identified because of the potential for the Project, both alone and in-combination with other plans and projects, to impact site features via: loss/ change in habitats; noise/ visual disturbance; hydrological changes and dust emissions. The impacts upon each of the features for which LSE was identified are set out in Table 3 for the Swale SPA and Table 4 for the Swale Ramsar.

**Table 3: Impact upon each feature of the Swale SPA for which LSE was identified**  
(C = construction; O = operation and maintenance; D = decommissioning)

Feature	Loss/ change in habitats	Noise/ visual disturbance	Hydrological changes	Dust emissions	In-combination
Brent goose (non-breeding)	C, O	C, D	C, D	C, D	C, O, D
Dunlin (non-breeding)		C, D	C, D	C, D	C, D
Breeding bird assemblage	C, O	C, D	C, D	C, D	C, O, D
Wintering waterbird assemblage (non-breeding)	C, O	C, D	C, D	C, D	C, O, D

**Table 4: Impact upon each feature of the Swale Ramsar for which LSE was identified**  
(C = construction; O = operation and maintenance; D = decommissioning)

Feature	Loss/change in habitats	Noise/visual disturbance	Hydrological changes	Dust emissions	In-combination
Criterion 2 – at least seven British Red Data Book invertebrate species			C, D	C, D	
Criterion 5 – wintering waterfowl assemblage	C, O	C, D	C, D	C, D	C, O, D
Criterion 6 – redshank (non-breeding)		C, D	C, D	C, D	C, D
Criterion 6 –brent goose (non-breeding)	C, O	C, D	C, D	C, D	C, O, D
Criterion 6 – grey plover (non-breeding)		C, D	C, D	C, D	C, D

- 4.13 NE advised [APP-026: Appendix 1 ‘NE initial advice December 2016: Annex 2’] that because the conservation objectives for SPAs cover the management of Ramsar interests, and the SPA and Ramsar site were designated at the same time under the same criterion, then only one assemblage assessment is required on the species named for the SPA. The Applicant’s assessment of effect on site integrity therefore considers those features that overlap the SPA and Ramsar designation as one population.
- 4.14 The RSPB stated [REP2-101] that it objected to the Project but was unable to make further submissions to the Examination due to resource constraints. The RSPB advised that it deferred to NE and KWT in respect of Examination submissions [REP2-101].

## Alone Assessment

### Loss or change in habitat

#### Displacement: Brent goose, lapwing and golden plover

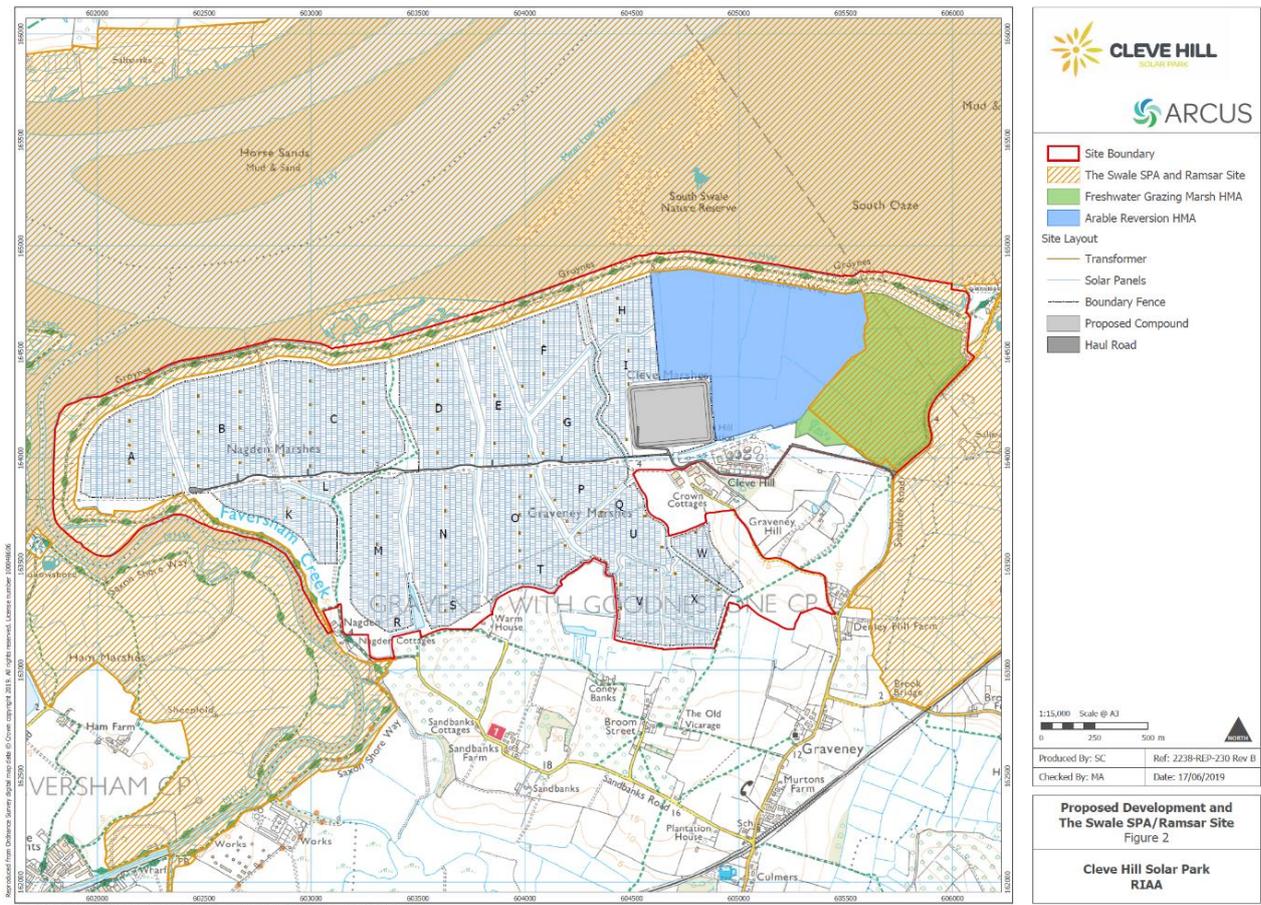
- 4.15 The Project could result in a LSE upon three wintering waterbird features of the Swale SPA and Ramsar site (brent goose, lapwing and golden plover) due to a loss or change in habitat during Project construction and operation which could result in the displacement of these species from the arable fields within the application site, which they would have otherwise used for foraging and resting/ roosting. The Applicant determined that the arable fields are of high importance to these three species and therefore represents land which is functionally linked to the Swale SPA and Ramsar although outside of the boundary of these designated sites [REP7-011]. Table 5 shows the categorisation of these three features within the SPA and Ramsar.

**Table 5: Features of the Swale SPA and Ramsar for which displacement as a result of loss or change in habitat could lead to LSE**

Site	Feature
The Swale SPA	<b>Brent goose</b> (non-breeding)
	Wintering waterbird assemblage (non-breeding): <b>Brent goose, lapwing and golden plover only</b>
The Swale Ramsar	Criterion 5 – wintering waterfowl assemblage: <b>Brent goose, lapwing and golden plover only</b>
	Criterion 6 – <b>Brent goose</b> (non-breeding)

- 4.16 The Secretary of State’s assessment of potential for AEol of these three species as a result of habitat loss/ change of the functionally linked land during construction and operation of the Project is presented below.
- 4.17 The Applicant concluded that, subject to appropriate mitigation, there would be no AEol on the brent goose, lapwing and golden plover features of the Swale SPA and Ramsar. To mitigate the loss of the foraging resource for brent goose, lapwing and golden plover, the Project included measures to revert approximately 56ha of arable fields to permanent grassland pasture, known as the Arable Reversion Habitat Management Area (“AR HMA”). On a precautionary basis a 50m avoidance zone around site infrastructure is assumed, where there may be a lower density of foraging birds, so the Applicant defined the AR HMA as providing a total of 50.1ha of functionally available grassland area [REP7-011]. The location of the AR HMA in relation to both the Project and the Swale SPA and Ramsar is shown blue in Figure 5.
- 4.18 No additional measures to mitigate impacts from habitat loss to brent goose, lapwing and golden plover during construction were proposed by the Applicant, beyond those to mitigate the impact of habitat loss during operation. However, the Applicant clarified that the AR HMA would be created before the first winter of construction [REP3-017].
- 4.19 NE’s view was that in order to have sufficient certainty that an AEol on The Swale SPA and Ramsar site could be avoided, there should be no net loss of foraging resource [REP3-082]. In order to ensure this the Applicant used a ‘bird days’ metric to assess the current use of the arable fields within the whole Project site by these three species and compared this to the number of bird days that could be supported by the proposed AR HMA. The approach was based on matching the average, long-term bird use of the developed part of the Project Site (established through EIA site surveys) to the capacity of the AR HMA to provide an equivalent food resource.

Figure 5: Arable Reversion Habitat Management Area [REP7-011: Figure 2].



4.20 To calculate this the Applicant determined via site surveys the inter-annual mean of the intra-annual mean of the peak monthly counts (the ‘peak-mean’) number of birds per day which were foraging on the arable land. They then multiplied the peak-mean number of foraging birds by the number of days in the season, to calculate seasonal bird days. This total represented the number of bird days that the AR HMA would need to provide to mitigate the loss of foraging resource fully [REP7-011]. This number of bird days for each species was then converted to the area of grassland within the AR HMA that would be required to provide an equivalent food resource. The seasonal bird days that the AR HMA would need to provide to fully mitigate the loss of foraging resource for each feature is presented in Table 6 alongside the corresponding area of grassland in hectares (ha) within the AR HMA that would be required:

Table 6: Area of grassland (AR HMA) required to mitigate loss of arable fields

Feature	Current use of the arable fields within the whole project site	Bird days supported by each ha of AR HMA	Area of grassland (AR HMA) required to fully mitigate loss of arable fields
Brent goose	101,940 bird days/winter	2,097 days/ha	48.6 ha
Golden plover	28,802 bird days/winter	1,556 days/ha	18.5 ha
Lapwing	56,023 bird days/winter	1,000 days/ha	56 ha

4.21 NE stated [RR-826] that it considered the ‘bird days’ metric to be an appropriate way of assessing losses and gains in habitat. NE also confirmed it was satisfied that the baseline bird surveys were undertaken during a representative part of the crop rotation, and hence that the ‘peak-mean’ is an appropriate way to calculate bird days [RR-826].

### Brent goose

- 4.22 The Applicant calculated [REP7-011] that the AR HMA would support 2,097 foraging brent goose days/ha. The necessary 101,940 brent goose days would therefore require 48.6ha of grassland within the AR HMA. The AR HMA would provide 50.1ha of grassland habitat for geese, more than the 48.6ha required, and therefore there would be no net loss of habitat for brent goose.
- 4.23 In response to concerns from KWT regarding water quality and use of fertiliser on the AR HMA [RR-799], the Applicant stated (KWT-3, [AS-009]): *'It is anticipated that spreading of organic fertiliser will be restricted beyond 10 m of wet field boundaries, in line with government guidance'*. At Deadline 3, Appendix J of the outline LBMP (Landscape and Biodiversity Management Plan) (revision B, [REP3-005]) was updated to confirm that: *'Application of the fertiliser will be excluded from within 10m of the drainage ditches, in line with DEFRA best practice guidance'*.
- 4.24 NE recommended [REP2-096] that the Applicant consider whether the exclusion of fertiliser within 10m of ditches would have any impact on the capacity of the AR HMA for brent goose. The Applicant's recalculation of the capacity of the AR HMA without fertilising the area around the ditches resulted in 101,580 goose days, versus the 101,940 goose days previously calculated (i.e. a difference of 360 goose days) [REP4-020].
- 4.25 NE considered [REP4-069] that *'the difference of 360 goose-days when taking into account the unfertilised buffer along the ditches is not significant in the context of the number of goose-days supported by the whole AR HMA'*. KWT however stated [REP5-048] that it *'...sticks to the principle of meeting the mitigation target'* and this remained as an area of disagreement between the Applicant and KWT at the close of Examination [REP17-009].

### Golden plover and lapwing

- 4.26 The Applicant calculated [REP7-011] that the necessary 28,802 bird days for golden plover would require 18.5ha of mitigation land. The AR HMA will provide 50.1ha of habitat, more than the required 18.5ha required, and therefore there would be no net loss of habitat for golden plover.
- 4.27 The Applicant calculated [REP7-011] that the necessary 56,023 bird days for lapwing would require 56ha of mitigation land. The AR HMA would provide 50.1ha of habitat, less than the 56ha required.
- 4.28 The Applicant considered that the additional capacity for golden plover could be utilised by lapwing, meaning there would be no net loss of habitat for lapwing. The Applicant's baseline surveys found that there was almost no coincidence between golden plover and lapwing and brent goose in the same fields at the same time (although the same fields were used at different times) [REP7-011]. The Applicant considered that the mitigation area for golden plover and lapwing could be co-located in the same area and under the same management as that for brent goose. Golden plover and lapwing feed on surface and soil invertebrates, whereas brent goose feeds on vegetation, meaning there is no competition for foraging resources between these species [REP7-011].
- 4.29 NE acknowledged that the brent goose does not compete for the same food as lapwing and golden plover and that these species could 'potentially' be accommodated on the same piece of mitigation land [RR-826]. NE stated [REP2-096] that the factors determining whether both types of species could be accommodated are; whether there is physically enough space for the different flocks, and whether management for one does not hinder the other's ability to forage.
- 4.30 The Applicant's assessment for lapwing and golden plover relied primarily on research by Gillings *et al* (2007)<sup>10</sup>, a study of mixed arable farmland for which capacity in terms of bird days was

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<sup>10</sup> Gillings, S., Fuller, R.J. and Sutherland, W. (2007). Winter field use and habitat selection by Eurasian Golden Plovers *Pluvialis apricaria* and Northern Lapwings *Vanellus* on arable farmland. *Ibis* 149: 509-520.

estimated for the two species together [REP2-006]. The Applicant acknowledged that there are no directly applicable studies of the capacity of grassland, in terms of bird days, to support these species [REP2-006].

- 4.31 The Applicant proposed [AS-040] that as there is under-capacity for lapwing and over-capacity for golden plover then the over-capacity for golden plover could make up the shortfall for lapwing, such that the 50.1 ha mitigation area is sufficient in size to support the required number of lapwing and golden plover.

**Table 7: Area of grassland (AR HMA) required to mitigate loss of arable fields: lapwing and golden plover shared carrying capacity**

Feature	Current use of the arable fields within the whole project site	Bird days supported by each ha of AR HMA	Area of grassland (AR HMA) required to fully mitigate loss of arable fields
Golden plover	28,802 bird days/winter	1,556 days/ha	18.5 ha
Lapwing	56,023 bird days/winter	1,000 days/ha	56 ha
Combined	84,825 bird days/winter	2,556 days/ha	<b>33.2 ha</b>

- 4.32 The Applicant sought confirmation from the author as to the transferability of foraging capacity between lapwing and golden plover. Dr Gillings confirmed [AS-040]: ‘... it seems reasonable to me to assume that the carrying capacity for Lapwings can be added to the carrying capacity for Golden Plovers. This total "plover days" value could then be shared out according to how common the two species are relative to one another at a particular location’.
- 4.33 NE stated [REP5-050] that it satisfied that the additional submission [AS-040] by the Applicant of the correspondence with Dr Gillings confirms that the lapwing- and golden plover-days can be combined. This resolves one of the uncertainties we have identified in regard to the ARHMA for waders. NE further stated [REP5-050] that as there had been confirmation from Dr Gillings that the lapwing and golden plover bird days could be combined, giving a requirement of around 33ha for both species, the provision of 50.1ha was sufficiently precautionary to overcome the uncertainties it had previously identified surrounding the sufficiency of the AR HMA for lapwing and golden plover and consequently there would be no net loss of habitat.
- 4.34 KWT considered [REP5-048] that: ‘...as Dr Gillings has confirmed that the figures for lapwing and golden plover carrying capacity from his study can be combined, this particular issue has been dealt with’.
- 4.35 The proposed AR HMA was the key measure to mitigate the potential adverse effects on brent goose, golden plover and lapwing, and it was questioned and discussed extensively during the course of the Examination, leading to iterative refinements to the relevant sections of the outline LBMP [REP7-013]. The AR HMA would be managed through a combination of grass cutting and application of nitrous fertiliser [REP7-011] and [REP7-013]. The management prescriptions for the proposed AR HMA are set out in the outline LBMP, primarily in Appendix J (Arable Reversion Habitat Management Area Management Plan) [REP7-013].
- 4.36 NE considered [REP7-109] that the mitigation measures set out in the outline LBMP were sufficient in relation to lapwing, golden plover and brent goose and advised that when a formal appropriate assessment is undertaken, the evidence before the Secretary of State is sufficient to support a conclusion of no adverse effect on the integrity of The Swale SPA and Ramsar site.
- 4.37 The ExA recommended [ExA: 9.8.93] that taking account of the mitigation proposed (the AR HMA), the loss of the arable fields would not undermine the conservation objectives of The Swale SPA as

there would be no net loss of habitat for brent goose, golden plover or lapwing. The ExA recommended [ExA: 9.8.4] that having regard to the information provided and the measures secured through the Recommended DCO, it was of the view that habitat loss or change as a result of the Project would not result in an AEol of brent goose, lapwing, golden plover and the other wintering waterbird qualifying features of The Swale SPA and Ramsar site, either alone or in combination with other plans or projects.

- 4.38 The ExA notes [ExA: 9.8.4] that this conclusion is shared by NE, as confirmed in [REP7-109] and [AS-050] and acknowledges that KWT disagrees with its conclusion [REP17-009] but considers that the available information adequately supports its findings.
- 4.39 The Secretary of State has considered the representations made by the Applicant and other IPs including NE and KWT and the recommendation as made by the ExA. The Secretary of State is satisfied that the potential displacement of brent goose, lapwing and golden plover due to habitat loss or change as a result of the Project alone will be fully mitigated by the AR HMA such that there will be no net loss of foraging resource so the loss of the arable fields would not undermine the conservation objectives of The Swale SPA. In agreement with the recommendations of the ExA, the Secretary of State considers that this mitigation (secured by Requirement 5 in the DCO) is sufficient to conclude that the potential displacement of brent goose, lapwing and golden plover due to habitat loss or change during construction and operation of the Project alone would not have an adverse effect on the integrity of the Swale SPA or Ramsar.

**Displacement: Marsh Harrier**

- 4.40 The Project could result in a LSE upon marsh harriers, a component species of the breeding bird assemblage qualifying feature of the Swale SPA, during Project construction and operation due to habitat change: from growing crops in the arable fields to the presence of solar panels and an energy storage facility, which potentially reduces the area available for foraging. Table 8 shows the categorisation of this feature within the SPA.

**Table 8: Features of the Swale SPA for which displacement as a result of loss or change in habitat could lead to LSE**

Site	Feature
The Swale SPA	Breeding bird assemblage: <b>marsh harrier only</b>

- 4.41 The Secretary of State’s assessment of potential for AEol on marsh harrier as a result of habitat loss or change during construction and operation of the Project (and the proposed approach to mitigating such impacts) is presented below.
- 4.42 The Applicant’s baseline flight activity surveys demonstrated that the Project site, although outside the Swale SPA, provides an important foraging area for marsh harriers throughout the year. The Applicant however determined that the arable fields are not favoured foraging habitat, with marsh harriers mostly recorded foraging along the ditch and grassland strips at the edges of the arable fields and throughout the coastal grazing marsh/ reedbed strip just inland of the sea wall [APP-026]. The Applicant concluded that subject to the appropriate management of the large grassland swathes between the solar arrays, foraging marsh harriers will still be attracted to the Project site so there would be no AEol on the marsh harrier feature of the Swale SPA.
- 4.43 The approach proposed by the Applicant was to maximise the habitat within the Project site for small mammals as a foraging resource for marsh harriers. This is in line with NE’s advice that the presence of optimal foraging habitat is likely to encourage at least some individual marsh harriers

to overcome any reticence about the presence of the panels, such that the overall population will be maintained [REP3-082] and [REP5-050].

- 4.44 The Applicant proposed [REP2-006] that the areas between the solar panel arrays and ditches would be managed as Coastal and Floodplain Grazing Marsh as per the 'Grazing Marsh Grassland Management Plan' ("GMG MP"), the aim of which is to establish a grassland sward with greater ecological value than the existing arable land. The Applicant also proposed mitigation in the form of an Aquatic Habitats Management Plan ("AH MP") to improve water quality.
- 4.45 The provision of additional favourable habitat, associated increase in prey species and the more sympathetic management of water levels are all factors that the Applicant expects to have beneficial effects for marsh harrier. Whilst the Applicant acknowledged that individual birds may be dissuaded from utilising the site by the presence of the panels, it predicted that greater availability of prey and the more favourable habitat created would at least maintain the carrying capacity of the Project site at a population level.
- 4.46 NE stated [REP2-096] that there was some uncertainty as to whether individual marsh harrier would continue to forage along the ditches within the Project site as there is a lack of existing equivalent sites with which to compare the potential response of marsh harrier to the presence of solar panels. The Applicant accepted [REP2-006] that there was no peer-reviewed empirical evidence regarding changes in behaviour of marsh harriers at or around solar farms.
- 4.47 In order to be certain that an AEol of The Swale SPA will be avoided, NE considered that there should be both no net loss of habitat and no net loss of foraging opportunities [REP5-050]. As such, NE advised the Applicant to maximise the habitat between the ditches and solar panels to provide as many small mammals as possible as food for marsh harriers. However, NE acknowledged [REP3-082] that if marsh harriers are deterred from using the site by the presence of the panels, this food will not be available to them. NE advised that absolute certainty over the response of marsh harriers to solar panels would not be possible as there are no equivalent sites and the Project has not yet been built [REP3-082 and REP5-050].
- 4.48 KWT stated [REP4-068] that with no studies to compare it to, the reaction of marsh harriers to the solar park, either on the site-wide or individual ditch scale, will remain an unknown. KWT considered that there were no adaptive measures in the outline LBMP that would mitigate the impact if marsh harriers were found not to use the inter-array grassland areas. The signed, revised SoCG [REP17-009] notes that KWT did not agree with the Applicant's position on marsh harrier and suggested that uncertainty remained.
- 4.49 The Applicant stated that approximately 3,385ha of suitable marsh harrier foraging habitat is available within The Swale SPA and at least 4,175ha of foraging habitat is available outside the SPA, representing a combined total of approximately 7,560ha of foraging habitat [REP7-037], as illustrated in Figure 6.

**Figure 6: The Swale SPA: Functionally linked foraging habitats for marsh harriers [REP7-037].**



4.50 To address the uncertainty in the response of marsh harrier to the presence of the solar panels, the ExA asked [PD-009] the Applicant to provide two estimates of the proportion of marsh harrier foraging habitat which would be affected or lost as a result of the Project, in the context of The Swale SPA and the applicable functionally-linked land. The first estimate (scenario 1) was to assume that the Applicant’s conclusion that the corridors of reedbed and grassland habitat between the solar array fields will be used post-construction by marsh harriers was correct. The second estimate (scenario 2) was to assume that marsh harriers would not use the corridors of reedbed and grassland habitat between the solar array fields post-construction for behavioural reasons, as postulated by some IPs. The Applicant’s estimates are shown in Table 9.

**Table 9: Percentage of the total available marsh harrier foraging habitat lost**

Scenario	Marsh harrier foraging habitat lost as a result of the Project	Percentage of the total available foraging habitat in and around the SPA lost
Scenario 1: Marsh harriers continue to use inter-array grasslands post-construction	256.5ha [REP7-037]	3.4% [REP7-037]
Scenario 2: Marsh harriers avoid inter-array grasslands post-construction	292ha [REP7-037]	3.9% [REP7-037]

- 4.51 The Applicant stated [REP7-037] that even if marsh harriers do not use the corridors of reedbed and grassland habitat between the solar array fields post-construction for behavioural reasons, the loss of foraging would equate to a potential loss of marsh harrier foraging habitat, representing ‘..... less than 4% of the potential foraging habitat of all types (saltmarsh, grazing marsh grassland and arable habitat within and outside the SPA) available to marsh harriers from the SPA population. If the same proportion is applied directly to the SPA marsh harrier population and if arable foraging habitat is a potentially limiting factor in their survival or productivity, then in that assumed scenario there would be effective loss of 1-2 pairs from the SPA population (4% of 24-42 pairs)’. The Applicant considers [REP17-013] that this would not affect the long-term viability of the SPA population and that it can reasonably be concluded, beyond reasonable scientific doubt, that there will be no AEoI of marsh harrier of The Swale SPA.
- 4.52 NE’s advice (based on subsequently revised higher figures of 4.4% compared to 3.4%, and 5% compared to 3.9%) was that such loss of foraging habitat would not lead to an AEoI, based on the fact that improved foraging habitat will be provided around the edge of the solar park and along the ditches in the AR HMA, and also because it is unlikely that marsh harrier population is so constrained that the loss of that part of the supporting habitat would lead to a reduction in productivity to the extent that the SPA population would be affected [REP7-109]. NE noted that this conclusion is also supported by the remedial measures added to the final outline LBMP [REP7-013]. NE advised that when a formal appropriate assessment is undertaken, the evidence before the Secretary of State is sufficient to support a conclusion of no AEoI of The Swale SPA [REP7-109].
- 4.53 The ExA states that the potential loss of 292ha of low-value arable foraging habitat, which is not located within the SPA itself, is sufficiently small in materiality in the context of the total available foraging area that the conservation objectives of The Swale SPA would not be undermined [ExA: 9.8.141]. The ExA recommends that, “on the basis of the information before us, having regard to the measures secured through the Recommended DCO and the views of Natural England as the Statutory Nature Conservation Body, we are of the view that habitat loss or change as a result of the Proposed Development would not result in an AEoI of marsh harrier of the Swale SPA, either alone or in-combination with other plans or projects. We note that this conclusion is shared by Natural England, as confirmed in [REP7-109] and [AS-050]. We acknowledge that Kent Wildlife Trust disagrees with this conclusion [REP17-009] but consider that the available information adequately supports our findings” [ExA: 9.8.142].
- 4.54 The Secretary of State has considered the representations made by the Applicant and other IPs including NE and KWT and the recommendation as made by the ExA. In agreement with the recommendations of the ExA, the Secretary of State considers that measures set out in the outline LBMP (secured by Requirement 5 in the DCO) is sufficient to conclude that the potential displacement of marsh harrier due to habitat loss or change during construction and operation of the Project alone would not have an adverse effect on the integrity of the Swale SPA.

## Noise and Visual Disturbance

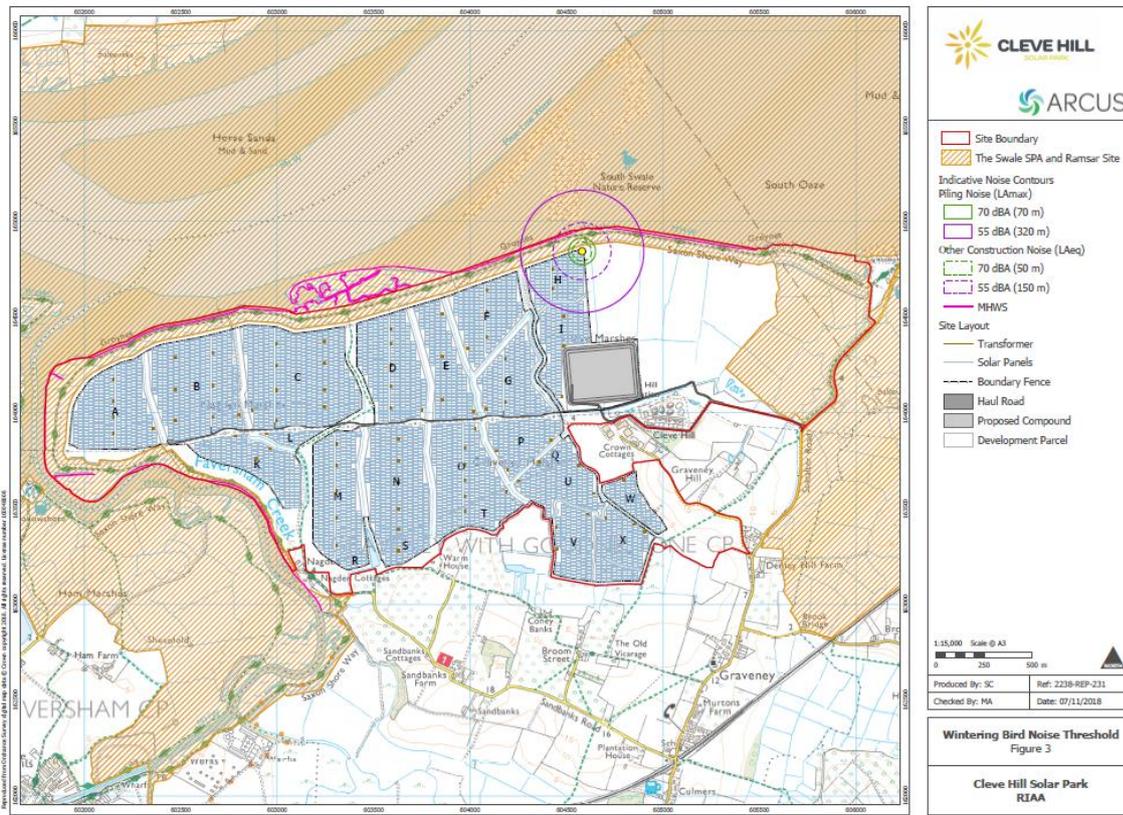
4.55 The Project could result in a LSE upon breeding and non-breeding bird features of the Swale SPA and Ramsar during construction and decommissioning due to noise and visual disturbance. Table 10 shows the categorisation of these features within the SPA and Ramsar.

**Table 10: Features of the Swale SPA and Ramsar for which noise and visual disturbance could lead to LSE**

Site	Feature
The Swale SPA	<b>Brent goose</b> (non-breeding)
	<b>Dunlin</b> (non-breeding)
	Breeding bird assemblage: <b>marsh harrier only</b>
	Wintering waterbird assemblage (non-breeding): <b>brent goose, lapwing and golden plover only</b>
The Swale Ramsar	Criterion 5 – wintering waterfowl assemblage: <b>Brent goose, lapwing and golden plover only</b>
	Criterion 6 – <b>redshank</b> (non-breeding)
	Criterion 6 – <b>Brent goose</b> (non-breeding)
	Criterion 6 – <b>grey plover</b> (non-breeding)

- 4.56 The Secretary of State’s assessment of potential for AEoI on these features as a result of noise and visual disturbance during construction and decommissioning of the Project (and the proposed approach to mitigating such impacts) is presented below.
- 4.57 The Applicant’s ES [APP-039: Table 9.6] describes the intertidal area to the north of the Project site as being one used by a significant number of SPA species. The Applicant’s noise modelling shows that wintering birds in intertidal habitats up to 320 m from the noise source could receive noise levels above 55 dB L<sub>Amax</sub> (see Figure 7) for some of the time when piling activity takes place within the fields closest to mean high water spring. These noise levels therefore extend into the intertidal area and there is consequently the potential for wintering birds to be impacted by construction noise.
- 4.58 The Applicant stated [APP-026] that construction would take place over two to three seasons, and on a field-by-field basis, meaning large areas of the application site would remain free of development and disturbance at any one time. In light of advice from NE [REP2-096, REP3-082 and REP5-050] and KWT [REP4-068], the outline LBMP was updated to refer to the AR HMA being established prior to the first winter of construction in order to provide some disturbance-free habitat for geese and wintering waders during construction [APP-026].
- 4.59 The Applicant stated [APP-026] that noise levels during decommissioning would be lower and occur over a shorter time period than the noise levels during construction, with noise levels to be controlled through a decommissioning plan. The Applicant considers [REP2-006] that the outline Decommissioning and Restoration Plan (D&RP) [REP6-010] “...provides the mechanism by which there can be certainty that control measures will be implemented during decommissioning to prevent significant effects of noise disturbance, dust and hydrological changes to SPA breeding and wintering birds” [REP2-006].

Figure 7: Indicative noise contours [APP-026: Figure 3]



- 4.60 The Applicant’s assessment of potential AEoI as a result of noise and visual disturbance to breeding and non-breeding birds during construction and decommissioning concluded that subject to mitigation measures secured in the SPA Construction Noise Management Plan (“CNMP”), Breeding Bird Protection Plan (“BBPP”) AR HMA and D&RP there would be no AEoI of the qualifying features of the Swale SPA and Ramsar site.
- 4.61 NE initially raised concerns ([RR-826] and [REP2-096]) that the measures in the outline SPA CNMP were not sufficient to be certain that adverse impacts on birds from noise disturbance would be avoided at high tide. In NE’s view this applied particularly to birds roosting at Castle Coote, as options for alternative high tide roosts are more limited than foraging areas and birds are pushed closer to the source of disturbance by the high tide. The Applicant submitted a revised outline SPA CNMP [REP7-020] and outline BBPP [REP7-015] to address NE’s concerns. The revisions included timing restrictions on piling to avoid disturbance to birds using the high tide roost at Castle Coote.
- 4.62 NE confirmed [REP5-050] that these documents now addressed its previous concerns regarding noise contours and measures to avoid construction noise disturbance in particularly sensitive parts of the designated sites, including Castle Coote [REP5-050]. NE also confirmed [REP5-050] it was satisfied that the SPA CNMP and BBPP contain clear and sufficient measures to avoid an AEoI of the qualifying features of The Swale SPA and Ramsar site from construction disturbance. NE confirmed [REP3-082] that it had no comments on the scope and content of the outline D&RP. The Applicant asserts that NE’s agreement regarding construction impacts [REP5-050] is applicable to decommissioning. This position was reported in the RIES [PD-010] and was not disputed by NE.
- 4.63 The ExA recommended that “on the basis of the information before us, and having regard to the measures secured through the outline SPA CNMP [REP7-020] and outline BBPP [REP7-015] and the view of NE, we consider that there will be no AEoI of the qualifying features of The Swale SPA and Ramsar site as a result of construction noise disturbance”. The ExA also recommends [ExA:

9.8.155] that “on the basis of the information before us, having regard to the measures secured through the outline DRP [REP6-010], we are of the view that there will be no AEoI on the qualifying features of The Swale SPA and Ramsar site as a result of decommissioning”.

4.64 The Secretary of State has considered the representations made by the Applicant and other IPs including NE and KWT and the recommendation as made by the ExA. In agreement with the recommendations of the ExA, the Secretary of State considers that measures set out in the outline SPA CNMP, BBPP, LBMP, AR HMA and D&RP, secured by requirements in the DCO are sufficient to conclude that the potential disturbance of the qualifying features of The Swale SPA and Ramsar site as a result of during construction and decommissioning of the Project alone would not have an adverse effect on the integrity of the Swale SPA or Ramsar.

## Hydrological changes and dust emissions

4.65 The Project would result in a LSE upon breeding and non-breeding bird features of the Swale SPA and Ramsar during construction and decommissioning due to hydrological changes and dust emissions. Table 11 shows the categorisation of these features within the SPA and Ramsar.

**Table 11: Features of the Swale SPA and Ramsar for which hydrological changes and dust emissions could lead to LSE**

Site	Feature
The Swale SPA	<b>Brent goose</b> (non-breeding)
	<b>Dunlin</b> (non-breeding)
	Breeding bird assemblage: <b>marsh harrier only</b>
	Wintering waterbird assemblage (non-breeding): <b>brent goose, lapwing and golden plover only</b>
The Swale Ramsar	Criterion 2 – at least seven British Red Data Book <b>invertebrate species</b> (alone only)
	Criterion 5 – wintering waterfowl assemblage: <b>brent goose, lapwing and golden plover only</b>
	Criterion 6 – <b>redshank</b> (non-breeding)
	Criterion 6 – <b>Brent goose</b> (non-breeding)
	Criterion 6 – <b>grey plover</b> (non-breeding)

4.66 The Secretary of State’s assessment of potential for AEol on these features as a result of hydrological change and dust emissions during construction and decommissioning of the Project (and the proposed approach to mitigating such impacts) is presented below.

4.67 The Applicant’s assessment [REP7-011: 6.1.3-4] of potential AEol as a result of hydrological changes and dust emissions during construction and decommissioning of the Project concluded that subject to mitigation measures set out in the outline Construction Environmental Management Plan (“CEMP”), there would be no AEol of the qualifying features of The Swale SPA and Ramsar site. The Applicant considers [REP2-006] that the outline D&RP [REP6-010] “...provides the mechanism by which there can be certainty that control measures will be implemented during decommissioning to prevent significant effects of noise disturbance, dust and hydrological changes to SPA breeding and wintering birds” [REP2-006].

4.68 NE confirmed [REP5-050] that it is content that the CEMP [REP7-015] contains sufficient mitigation measures to avoid an AEol from construction impacts, including dust and water quality. NE confirmed [REP3-082] that it had no comments on the scope and content of the outline D&RP. The Applicant asserts that NE’s agreement regarding construction impacts [REP5-050] is applicable to decommissioning. This position was reported in the RIES [PD-010] and was not disputed by NE.

4.69 The ExA recommended [ExA: 9.8.151] that “on the basis of the information before us and having regard to the measures secured through the outline CEMP [REP7-015] and the views of Natural England, we are of the view that there will be no AEol of The Swale SPA and Ramsar site from dust and hydrological changes during construction. The ExA also recommended [ExA: 9.8.155] that “on the basis of the information before us, having regard to the measures secured through the outline DRP [REP6-010], we are of the view that there will be no AEol on the qualifying features of The Swale SPA and Ramsar site as a result of decommissioning”.

4.70 The Secretary of State has considered the representations made by the Applicant and other IPs including NE and KWT and the recommendation as made by the ExA. In agreement with the recommendations of the ExA, the Secretary of State considers that measures set out in the outline

CEMP and D&RP and secured by requirements in the DCO (Requirements 11 and 17) are sufficient to conclude that the potential disturbance of the qualifying features of the Swale SPA and Ramsar site as a result of hydrological change and dust emissions during construction and decommissioning of the Project alone would not have an adverse effect on the integrity of the Swale SPA or Ramsar.

## In-combination Assessment

- 4.71 The Applicant identified potential for LSE in-combination with other plans or projects on all qualifying features of the Swale SPA and Ramsar site in Table 1, with the exception of the Ramsar invertebrate community [APP-026 and REP3-023].
- 4.72 The Applicant compiled information on other plans and projects that might affect the interest features of The Swale SPA or Ramsar Site in combination with the Project and made an assessment as to whether any adverse effects might occur in-combination that did not result from the Project alone [APP-026: 6.2].
- 4.73 Those plans and projects screened in for consideration were identified based on geographic proximity to the Project. The Applicant's search criteria included a zone of influence of up to 10 km from the project site. The Applicant presented a table [APP-026: Table 7] of each in-combination project's application reference, location, status, and type along with a summary of the residual effects assessed for The Swale SPA and Ramsar Site. The list was presented in three tiers as defined by 'Planning Inspectorate Advice Note 17: Cumulative Effects Assessment'<sup>11</sup>. In combination developments were grouped into tiers, reflecting the likely degree of certainty attached to each development, with Tier 1 being the most certain and Tier 3 least certain and most likely to have limited publicly available information to inform assessments. None of those projects identified by the Applicant were categorised as making any contribution to an in-combination effect.
- 4.74 The Project site is located within an area of land proposed for managed re-alignment in the Environment Agency's Medway Estuary and Swale Strategy ("MEASS"). However, the Applicant demonstrated that there would be no temporal overlap between the Project and the MEASS proposals for Project site.
- 4.75 The list of plans and projects considered by the Applicant in-combination was not challenged by any IPs. NE, Kent County Council ("KCC"), Swale Borough Council ("SBC") and Canterbury City Council ("CCC") confirmed they were content that all plans and projects with potential to result in in-combination effects together with the Project had been identified and assessed by the Applicant in the RIAA [REP2-096, REP2-053, REP2-056 and REP2-048 respectively]. The Marine Management Organisation noted that marine licences granted to the London Array Offshore Wind Farm Export Cable Corridor or Southern Water had not been discussed by the Applicant but were of the view that these were unlikely to result in in-combination effects with the Project [REP2-095].
- 4.76 The Applicant stated [APP-026] that "no in-combination effects have been identified that would elevate the magnitude of the effects of the Development to a level that would be significant. The Applicant concluded that the Project would not have an AEoI on any of the qualifying features of the Swale SPA or Ramsar in-combination with other plans and projects [APP-026]. The RIES [PD-010] reported that "this conclusion has not been disputed by NE or any IPs during the Examination, to date". NE's comments on the RIES [REP7-109] did not refute the Applicant's position and concluded that "the RIES is an accurate presentation of the advice that we have given throughout the Examination" and that when a formal appropriate assessment is undertaken, the evidence before the Secretary of State is sufficient to support a conclusion of no adverse effect on the integrity"
- 4.77 The ExA states [ExA: 9.9.2-3] that "*Having considered that information and taking into account the advice from Natural England and the mitigation secured through the Recommended DCO, we are satisfied that the Proposed Development would not lead to an AEoI, either alone or in-combination with other plans or projects, on the qualifying features of any European site. It is our judgement that there is sufficient information provided to enable the Secretary of State as competent authority to*

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<sup>11</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>

*conduct, if necessary, an appropriate assessment of the effects of the Proposed Development on European sites.”*

- 4.78 The Secretary of State has considered the representations made by the Applicant and other IPs including NE and KWT and the recommendation as made by the ExA. In agreement with the recommendations of the ExA, the Secretary of State concludes that the Project, in combination with other plans or projects, would not have an adverse effect on the integrity of the Swale SPA or Ramsar site.

## 5. Habitats Regulations Assessment Overall Conclusions

- 5.1 The Secretary of State has carefully considered all the information presented within the Project application and the representations made by all interested parties.
- 5.2 The Applicant concluded that the Project would not adversely affect the integrity of either the Swale SPA or Ramsar site, either alone or in-combination with other plans or projects.
- 5.3 The recommendation of the ExA is that there are no AEoI on either the Swale SPA or Ramsar site, as a result of the Project either alone or in-combination with other plans or projects.
- 5.4 The Secretary of State has considered the information provided by the Applicant and other IPs in light of the conservation objectives for the sites and made a full assessment of the potential for AEoI at each of these sites. Having given due consideration to the information and analysis presented to him, the Secretary of State concludes that the Project would not adversely affect the integrity of either the Swale SPA or Ramsar site, either alone or in-combination with other plans or projects. His conclusion is dependent upon the measures included in the proposed management plans which are secured in the DCO as outlined in Table 12.

**Table 12: Mitigation measures secured in the DCO**

Management Plan	DCO Requirement
Outline Landscape and Biodiversity Management Plan (LBMP) [REP7-013] and Arable Reversion Habitat Management Area Management Plan (AR HMA MP) (Appendix J of outline LBMP)	Requirement 5 of the DCO relates to the submission and approval of a LBMP which must accord with the outline LBMP.
Outline Special Protection Area Construction Noise Management Plan (SPA CNMP) [REP7-019]	Requirement 13 of the DCO relates to submission and approval of a SPA CNMP which must accord with the outline SPA CNMP
Outline Construction Environmental Management Plan (CEMP) [REP7-015] and outline Breeding Bird Protection Plan (BBPP) (Appendix B of the outline CEMP)	Requirement 11 of the DCO relates to submission and approval of a CEMP which must accord with the outline CEMP
Outline Decommissioning and Restoration Plan (D&RP) [REP7-017]	Requirement 17 (parts 10 to 12) of the DCO relates to submission and approval of a D&RP which must accord with the outline D&RP

- 5.5 **The Secretary of State concludes that, subject to the mitigation secured in the DCO, the effects of the Project, either alone or in-combination with other plans and projects, on the features of the Swale SPA and Ramsar, would not lead to an adverse effect on the integrity of these sites.**

Author: Sophie Thomas, BSc MSc CEnv MIEMA  
 Environmental Manager  
 Energy Infrastructure Planning Team  
 Department for Business Energy and Industrial Strategy

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