

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

**Habitats Regulations Assessment Stage 2 Information to Support an
Appropriate Assessment
Part One: Introduction**

October 2025
Rev: F02

MOR001-FLO-CON-ENV-ASS-0006
MRCNS-J3303-RPS-10053A

PINS Reference: EN020028
APFP Regulations: 5(2)(a)
Document reference: E2.1/F02

Document status					
Version	Purpose of document	Approved by	Date	Approved by	Date
F01	For issue	AS	September 2024	IM	September 2024
F02	Deadline 6	GL	October 2025	IM	October 2025

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Errata

Errata document version	Deadline included	Document Number	Volume and Chapter	Document section	Description of errata	Correction
F03	D3	APP-015	Habitats Regulations Assessment Stage 2 Information to Support an Appropriate Assessment Part One – Introduction	Table 1.1	As raised in the Examining Authority's Written Questions 1 (Ex Q1) (PD-008; Q 9.1.3), the Applicants acknowledge that in Table 1.1 the Maximum length of onshore export cables (220/275 kV) (km) is provided as 16 km for the Morgan Offshore Wind Project: Generation Assets. This should be replaced with a distance of 17 km.	<p>In Table 1.1 the Maximum length of onshore export cables (220/275 kV) (km) is provided as 16 km for the Morgan Offshore Wind Project: Generation Assets. This should be replaced with 17 km (see Table 3.1 of Volume 1, Chapter 3: Project description (F1.3/F04).</p> <p>The errata does not affect the conclusions of the HRA Screening (APP-018) or the ISAA Parts 2 and 3 (APP-016 and APP-017), which remain valid. The HRA Screening was undertaken based on the distances to the Offshore Order Limits, the Onshore Order Limits and relevant management units (for marine mammal receptors); as such, this parameter did not affect the decision to screen sites/features in/out or the subsequent assessment</p>

Errata document version	Deadline included	Document Number	Volume and Chapter	Document section	Description of errata	Correction
						presented in the ISAA Parts 2 and 3 (APP-016 and APP-017).

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Glossary

Term	Meaning
Annex I Habitat	A natural habitat type of community interest, defined in Annex I of the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (Habitats Directive), whose conservation requires the designation of Special Areas of Conservation.
Annex II Species	Animal or plant species of community interest, defined in Annex II of the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (Habitats Directive), whose conservation requires the designation of Special Areas of Conservation.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Appropriate Assessment	A step-wise procedure undertaken in accordance with Article 6(3) of the Habitats Directive, to determine the implications of a plan or project on a European site in view of the site's conservation objectives, where the plan or project is not directly connected with or necessary to the management of a European site but likely to have a significant effect thereon, either individually or in-combination with other plans or projects.
Candidate Special Areas of Conservation	Areas that were submitted to the European Commission as candidates for designation as a Special Area of Conservation before the end of the Transition Period following the UK's exit from the European Union, but not yet formally designated. See also Special Areas of Conservation.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Competent Authority	The term derives from the Habitats Regulations and relates to the duties which the Regulations impose on public bodies and individuals. Regulation 7 defines competent authorities as "any Minister, government department, public or statutory undertaker, public body of any description or person holding a public office".
Conservation Objectives	In its most general sense, a conservation objective is the specification of the overall target for the species and/or habitat types for which a site is designated in order for it to contribute to maintaining or reaching favourable conservation status of the habitats and species concerned, at the national, the biogeographical or the European level.
Design Envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for Environmental Impact Assessment purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.

Term	Meaning
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
European sites	Designated nature conservation sites which include the National Site Network (designated within the UK) and Natura 2000 sites (designated in any European Union country). This includes Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach to, and information to support, the Environmental Impact Assessment and Habitats Regulations Assessment processes for certain topics.
Expert Working Group	A forum for targeted engagement with regulators and interested stakeholders through the Evidence Plan Process.
Export cable corridor	The specific corridor of seabed (seaward of Mean High Water Springs) and land (landward of Mean High Water Springs) from the Generation Assets to the National Grid Penwortham substation.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Habitat	The environment that a plant or animal lives in.
Habitats Directive	The Habitats Directive is the short name for European Union Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. The Directive led to the establishing of European sites and setting out how they should be protected, it also extends to other topics such as European protected species.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 (as amended) and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).
Habitats Regulations Assessment	A process required by the Habitats Regulations of identifying likely significant effects of a plan or project on a European site and (where likely significant effects are predicted or cannot be discounted) carrying out an Appropriate Assessment to ascertain whether the plan or project will adversely affect the integrity of the European site. If adverse effects on integrity cannot be ruled out, the latter stages of the process require consideration of the derogation provisions in the Habitats Regulations.
In-combination Effects	The combined effect of the Transmission Assets in-combination with the effects from other proposed developments, on the same receptor or feature.
Intertidal Area	The area between Mean High Water Springs and Mean Low Water Springs.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.

Term	Meaning
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Likely Significant Effect	Any effect that may reasonably be predicted as a consequence of a plan or project that may affect the conservation objectives of the features for which the European site was designated but excluding trivial or inconsequential effects. A likely effect is one that cannot be ruled out on the basis of objective information. A 'significant' effect is a test of whether a plan or project could undermine the site's conservation objectives.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for to apply for 'deemed marine licences' in English waters as part of the development consent process.
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
Morecambe OWL	Morecambe Offshore Windfarm Limited is owned by Copenhagen Infrastructure Partners' (CIP) fifth flagship fund, Copenhagen Infrastructure V (CI V).
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW).

Term	Meaning
National Site Network	Following the UK's exit from the European Union, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The 2019 (EU Exit) Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK, including existing SACs and SPAs as well as new SACs and SPAs designated under these Regulations.
Natura 2000 Network	A coherent European ecological network of Special Areas of Conservation and Special Protection Areas comprising sites located within European Union Member States.
Offshore export cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Permanent Infrastructure Area	The area within the Transmission Assets Offshore Order Limits (up to MLWS) where the permanent offshore electrical infrastructure (i.e. offshore export cables) will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore Infrastructure Area	The area within the Transmission Assets Order Limits landward of Mean High Water Springs. Comprising the offshore export cables from Mean High Water Springs to the transition joint bays, onshore export cables, onshore substations and 400 kV grid connection cables, and associated temporary and permanent infrastructure including temporary and permanent compound areas and accesses. Those parts of the Transmission Assets Order Limits proposed only for ecological mitigation/biodiversity benefit are excluded from this area.
Onshore Order Limits	See Transmission Assets Order Limits: Onshore (below).
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Order Limits	The limits within which the Transmission Assets may be carried out.
Planning Inspectorate	The agency responsible for operating the planning process for applications for development consent under the Planning Act 2008.
Policy	A set of decisions by governments and other political actors to influence, change, or frame a problem or issue that has been recognized as in the political realm by policy makers and/or the wider public.

Term	Meaning
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project and which helps to inform consultation responses.
Ramsar sites	Wetlands of international importance that have been designated under the criteria of the Ramsar Convention. In combination with Special Protection Areas and Special Areas of Conservation, these sites contribute to the national site network.
Special Areas of Conservation	A site designation specified in the Conservation of Habitats and Species Regulations 2017. Each site is designated for one or more of the habitats and species listed in the Regulations. The legislation requires a management plan to be prepared and implemented for each SAC to ensure the favourable conservation status of the habitats or species for which it was designated. In combination with Special Protection Areas and Ramsar sites, these sites contribute to the national site network.
Special Protection Areas	A site designation specified in the Conservation of Habitats and Species Regulations 2017, classified for rare and vulnerable birds, and for regularly occurring migratory species. Special Protection Areas contribute to the national site network.
Species	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
Transmission Assets Order Limits: Offshore	<p>The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning.</p> <p>Also referred to in this report as the Offshore Order Limits, for ease of reading.</p>
Transmission Assets Order Limits: Onshore	<p>The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).</p> <p>Also referred to in this report as the Onshore Order Limits, for ease of reading.</p>

Acronyms

Acronym	Meaning
CJEU	Court of Justice of the European Union
Cobra	Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company)
cSAC	candidate SAC
DCO	Development Consent Order
Defra	Department for Environment, Food & Rural Affairs
EC	European Commission
EMF	Electromagnetic Fields
EnBW	Energie Baden-Württemberg AG
ES	Environmental Statement
EU	European Union
FCS	Favourable Conservation Status
HNDR	Holistic Network Design Review
HRA	Habitats Regulations Assessment
IROPI	Imperative Reasons of Overriding Public Interest
ISAA	Information to Support an Appropriate Assessment
LSE	Likely Significant Effect
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
Morecambe OWL	Morecambe Offshore Windfarm Ltd
Morgan OWL	Morgan Offshore Wind Limited
NGESO	National Grid Electricity System Operator
OTNR	Offshore Transmission Network Review
PEIR	Preliminary Environmental Information Report
pSAC	possible SAC
pSPA	potential SPA
SAC	Special Area of Conservation
SCI	Site of Community Importance
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
SSC	Suspended Sediment Concentration
TCE	The Crown Estate
UK	United Kingdom

Acronym	Meaning
UXO	Unexploded Ordnance

Units

Unit	Description
km	Kilometre
km ²	Square kilometre
kV	Kilovolt
MW	Megawatt
nm	Nautical mile

1 Habitats Regulations Assessment (HRA) Stage 2 Information to Support an Appropriate Assessment (ISAA)

1.1 Outline of the HRA Stage 2 ISAA

1.1.1 Purpose of the HRA Stage 2 ISAA

- 1.1.1.1 This document forms part of the Habitats Regulations Assessment (HRA) Stage 2 Information to Support Appropriate Assessment (ISAA) for the Morgan and Morecambe Offshore Wind Farms Transmission Assets (hereafter referred to as the 'Transmission Assets').
- 1.1.1.2 This report has been prepared by RPS on behalf of Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL) (hereafter referred to as 'the Applicants') to support the HRA under Section 63 of the Conservation of Habitats and Species Regulations 2017 and Section 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017 for the Transmission Assets.
- 1.1.1.3 The HRA Stage 2 ISAA builds upon the Transmission Assets: HRA Stage 1 Screening Report (hereafter referred to as 'HRA Stage 1 Screening Report') (document reference: E3) and considers whether the Transmission Assets could have an adverse effect, either alone or in-combination with other plans or projects, on the integrity of any European site. This report will provide the Competent Authority with the information required to undertake an HRA Stage 2 Appropriate Assessment (see **section 1.4** for more detail on the HRA process).
- 1.1.1.4 The scope of this document covers all relevant European sites and designated features where Likely Significant Effects (LSEs) have been identified in the HRA Stage 1 Screening Report (document reference: E3), due to the potential impacts arising from the Transmission Assets. Designated features include Annex I habitats (offshore and coastal), Annex II diadromous fish species, Annex II marine mammals and ornithological features. For the purposes of this HRA Stage 2 ISAA, ornithological features have been split into two subsections – offshore ornithology, and onshore and intertidal ornithology based on the location of the impact. The offshore ornithology section identifies ornithological features which have the potential to interact with the Transmission Assets Order Limits: Offshore (hereafter referred to as 'Offshore Order Limits')). The onshore and intertidal ornithology section identifies ornithological features which have the potential to interact with the Transmission Assets Order Limits: Onshore (hereafter referred to as 'Onshore Order Limits') and the Intertidal Infrastructure Area.
- 1.1.1.5 This means that in some cases, a feature may be assessed in both offshore ornithology and onshore and intertidal ornithology sections for different impacts. For example, terns are classified as seabirds, but they nest on shores and onshore works may disturb nesting terns in the vicinity of the works. Therefore, nesting tern would be assessed in the onshore and

intertidal ornithology section, whilst disturbance to foraging tern, which forage over open waters, would be assessed in the offshore ornithology section.

1.1.2 Progress to date

- 1.1.2.1 A HRA Stage 1 Screening Report (document reference: E3) for the Transmission Assets has been produced to determine whether Transmission Assets could result in an LSE on a European site, with reference to the conservation objectives of the site. The HRA Stage 1 Screening Report (document reference: E3) determined that, on the basis of theoretical spatial connectivity, the potential for LSEs to result from component elements of the Transmission Assets could not be discounted.
- 1.1.2.2 The HRA Stage 1 Screening Report (document reference: E3) presents the screening exercise, the purpose of which is summarised below.
- Identification of the relevant European sites and their qualifying features which may be sensitive or vulnerable to potential impacts arising from the construction, operation and maintenance and decommissioning phases of the Transmission Assets.
 - Identification of the qualifying features of relevant European sites which are not considered likely to be at risk of significant effects arising from the Transmission Assets, either alone or in-combination with other plans or projects, so that they can be eliminated from further consideration within the HRA process.
 - Identification of the qualifying features of relevant European sites which are considered likely to be at risk of significant effects so that they can be taken forward to the HRA Stage 2 Appropriate Assessment.
 - Consideration of the supporting habitats of qualifying species of relevant European sites and identification of those which are considered likely to be at risk of significant effects so that they can be taken forward within the HRA process.
 - Consideration of which of the potential impacts arising from the Transmission Assets, either alone or in-combination with other plans or projects, are considered likely to result in LSEs to features of European sites and which potential impacts can be eliminated from consideration in further stages of the HRA.
- 1.1.2.3 A summary of the HRA Stage 1 Screening Report conclusions (document reference: E3) for the Transmission Assets is provided in **section 1.4** of HRA Stage 2 ISAA Part 2: Special Areas of Conservation (SACs) Assessment (document reference: E2.2) and in **section 1.3** of HRA Stage 2 ISAA Part 3: Special Protection Areas (SPAs) and Ramsar Site Assessments (document reference: E2.3).

1.1.3 Structure of the HRA Stage 2 ISAA

- 1.1.3.1 For clarity and ease of navigation, this HRA Stage 2 ISAA is structured in three 'Parts', as follows.

-
- Part 1 (this document): Introduction and Background.
 - Part 2: SACs Assessment (document reference: E2.2).
 - Part 3: SPAs and Ramsar Site Assessments (document reference: E2.3).

1.1.4 Structure of this document

1.1.4.1 This document constitutes Part 1 of the HRA Stage 2 ISAA and provides an introduction and background to the Transmission Assets and the HRA process. The document is structured as follows.

- **Section 1.2:** Non-technical summary of the HRA Stage 2 ISAA report (all three Parts).
- **Section 1.3:** Introduction – this section describes the Transmission Assets, the Morgan Offshore Wind Project: Generation Assets and the Morecambe Offshore Windfarm: Generation Assets (hereafter referred to as ‘the Generation Assets’) and establishes the need for, the purpose and structure of the HRA Stage 2 ISAA.
- **Section 1.4:** Habitats Regulations Assessment process – this section sets out the process, principles, tests, (including those established by case law) and guidance applied to the HRA Stage 2 ISAA.
- **Section 1.6:** Key changes to the HRA Stage 2 ISAA since the Preliminary Environmental Information Report (PEIR) – this section provides a summary of the key changes to the HRA Stage 2 ISAA since PEIR.

1.2 Executive summary

1.2.1 Introduction

1.2.1.1 This report sets out a summary of the study findings to inform the second stage of the HRA required for the Transmission Assets to ensure compliance with the ‘Habitats Regulations’. The detailed assessment is presented in the HRA Stage 2 ISAA Part 2: SACs Assessment, and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.2; E2.3).

1.2.1.2 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) considers whether the Transmission Assets could have adverse effects, either alone or in-combination with other plans or projects, on the integrity of 25 designated European sites and three Ramsar sites for which the potential for LSEs could not be excluded in the HRA Stage 1 Screening Report (document reference: E3).

1.2.1.3 The HRA Stage 2 ISAA Part 2: SACs Assessment and ISAA Part 3: SPA and Ramsar Site Assessments assess the potential environmental effects resulting from the Transmission Assets. An assessment of adverse effects of the Transmission Assets alone and in-combination has been carried out against the conservation objectives for each relevant European site screened into the assessment. This assessment has taken account of the best

available baseline information and has been undertaken in view of the measures adopted as part of the Transmission Assets to mitigate the potential for adverse effects.

- 1.2.1.4 A summary of the key consultation undertaken to date for each receptor group is also considered and included in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and HRA Stage 2 ISAA Part 3: SPA and Ramsar Sites Assessments (document reference: E2.3). Further information on technical engagement relevant to the Transmission Assets is included in the Technical Engagement Plan (document reference: E5).
- 1.2.1.5 The consideration of the potential for adverse effects on the integrity of European sites has been made with reference to the overall ecological functions and the lasting preservation of the constitutive characteristics of the sites.

1.2.2 European sites and Ramsar sites

- 1.2.2.1 This section summarises the findings of the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) for the Transmission Assets for each of the European sites and their relevant qualifying features which have been taken forward to Stage 2 Appropriate Assessment. This includes a summary of the impact pathways identified for potential LSE as well as the findings of the Appropriate Assessment.
- 1.2.2.2 The designated sites have been ordered first by receptor (Annex I habitats, Annex II fish and shellfish, Annex II marine mammals, offshore ornithology, and onshore and intertidal ornithology), and then within each receptor group, by distance from the Offshore Order Limits (for Annex I habitats, Annex II fish and shellfish, Annex II marine mammals and offshore ornithology) or Onshore Order Limits and the Intertidal Infrastructure Area (for onshore and intertidal ornithology).

Annex I habitats

Shell Flat and Lune Deep SAC

- 1.2.2.3 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Shell Flat and Lune Deep SAC (5.7 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex I habitats (offshore and coastal) that are qualifying features of this European site and were screened into assessment are:
- sandbanks which are slightly covered by sea water all the time.
- 1.2.2.4 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Increased Suspended Sediment Concentrations (SSCs) and associated sediment deposition (during the construction, operation and maintenance and decommissioning phases).

- In-combination effects.

- 1.2.2.5 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Shell Flat and Lune Deep SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Annex II fish and shellfish

Dee Estuary/Aber Dyfrdwy SAC

- 1.2.2.6 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Dee Estuary/Aber Dyfrdwy SAC (located 32.8 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:

- sea lamprey *Petromyzon marinus*; and
- river lamprey *Lampetra fluviatilis*.

- 1.2.2.7 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Underwater sound from Unexploded Ordnance (UXO) clearance impacting fish and shellfish receptors (during the construction phase).
- Electromagnetic Fields (EMF) from subsea electrical cabling (during the operation and maintenance phase).
- In-combination effects.

- 1.2.2.8 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Dee Estuary/Aber Dyfrdwy SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC

- 1.2.2.9 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC (located 59.1 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:

- Atlantic salmon *Salmo salar*;
- sea lamprey; and

-
- river lamprey.

1.2.2.10 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
- EMF from subsea electrical cabling (during the operation and maintenance phase).
- In-combination effects.

1.2.2.11 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

River Ehen SAC

1.2.2.12 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Ehen SAC (located 62.5 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:

- Atlantic salmon; and
- freshwater pearl mussel *Margaritifera margaritifera*.

1.2.2.13 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
- EMF from subsea electrical cabling (during the operation and maintenance phase).
- In-combination effects.

1.2.2.14 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Ehen SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

River Kent SAC

1.2.2.15 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Kent SAC (located 65.2 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II

diadromous fish species that are qualifying features of this European site and were screened into assessment are:

- freshwater pearl mussel.

1.2.2.16 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
- EMF from subsea electrical cabling (during the operation and maintenance phase).
- In-combination effects.

1.2.2.17 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Kent SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

River Derwent and Bassenthwaite Lake SAC

1.2.2.18 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Derwent and Bassenthwaite Lake SAC (located 72.3 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:

- sea lamprey;
- river lamprey; and
- Atlantic salmon.

1.2.2.19 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase);
- EMF from subsea electrical cabling (during the operation and maintenance phase); and
- In-combination effects.

1.2.2.20 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Derwent and Bassenthwaite Lake SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Solway Firth SAC

- 1.2.2.21 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Solway Firth SAC (located 85.7 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:
- sea lamprey; and
 - river lamprey.
- 1.2.2.22 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
 - EMF from subsea electrical cabling (during the operation and maintenance phase).
 - In-combination effects.
- 1.2.2.23 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Solway Firth SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Afon Gwyrfaï a Llyn Cwellyn SAC

- 1.2.2.24 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Afon Gwyrfaï a Llyn Cwellyn SAC (located 87.3 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:
- Atlantic salmon.
- 1.2.2.25 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
 - EMF from subsea electrical cabling (during the operation and maintenance phase).
 - In-combination effects.
- 1.2.2.26 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Afon Gwyrfaï a Llyn Cwellyn**

SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.

River Bladnoch SAC

- 1.2.2.27 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Bladnoch SAC (located 89.5 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:
- Atlantic salmon.
- 1.2.2.28 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
 - EMF from subsea electrical cabling (during the operation and maintenance phase).
 - In-combination effects.
- 1.2.2.29 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Bladnoch SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

River Eden SAC

- 1.2.2.30 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the River Eden SAC (located 127.7 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II diadromous fish species that are qualifying features of this European site and were screened into assessment are:
- sea lamprey;
 - river lamprey; and
 - Atlantic salmon.
- 1.2.2.31 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Underwater sound from UXO clearance impacting fish and shellfish receptors (during the construction phase).
 - EMF from subsea electrical cabling (during the operation and maintenance phase).
 - in-combination effects.

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- 1.2.2.32 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the River Eden SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Annex II marine mammals

North Anglesey Marine/Gogledd Môn Forol SAC

- 1.2.2.33 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the North Anglesey Marine/Gogledd Môn Forol SAC (located 28.5 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- harbour porpoise *Phocoena phocoena*.

- 1.2.2.34 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

- 1.2.2.35 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the North Anglesey Marine/Gogledd Môn Forol SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

North Channel SAC

- 1.2.2.36 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the North Channel SAC (located 62.7 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- harbour porpoise.

- 1.2.2.37 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

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- 1.2.2.38 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the North Channel SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Lleyn Peninsula and the Sarnau/Pen Llŷn a`r Sarnau SAC

- 1.2.2.39 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Lleyn Peninsula and the Sarnau/Pen Llŷn a`r Sarnau SAC (located 111.2 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- grey seal *Halichoerus grypus*.

- 1.2.2.40 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

- 1.2.2.41 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Lleyn Peninsula and the Sarnau/Pen Llŷn a`r Sarnau SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

West Wales Marine/Gorllewin Cymru Forol SAC

- 1.2.2.42 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the West Wales Marine/Gorllewin Cymru Forol SAC (located 111.4 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- harbour porpoise.

- 1.2.2.43 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

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- 1.2.2.44 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the West Wales Marine/Gorllewin Cymru Forol SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Cardigan Bay/Bae Ceredigion SAC

- 1.2.2.45 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Cardigan Bay/Bae Ceredigion SAC (located 183.4 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:
- grey seal.
- 1.2.2.46 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
 - In-combination effects.
- 1.2.2.47 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Cardigan Bay/Bae Ceredigion SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Pembrokeshire Marine/Sir Benfro Forol SAC

- 1.2.2.48 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Pembrokeshire Marine/Sir Benfro Forol SAC (located 233.7 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:
- grey seal.
- 1.2.2.49 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
 - In-combination effects.
- 1.2.2.50 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would

be **no adverse effect on the integrity of the Pembrokeshire Marine/Sir Benfro Forol SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Bristol Channel Approaches/Dynesfeydd Môr Hafren SAC

- 1.2.2.51 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Bristol Channel Approaches/Dynesfeydd Môr Hafren SAC (located 296.9 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:
- harbour porpoise.
- 1.2.2.52 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
 - In-combination effects.
- 1.2.2.53 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessments (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Bristol Channel Approaches/Dynesfeydd Môr Hafren SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Rockabill to Dalkey Island SAC

- 1.2.2.54 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Rockabill to Dalkey Island SAC (located 123.6 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:
- harbour porpoise.
- 1.2.2.55 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.
- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
 - In-combination effects.
- 1.2.2.56 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Rockabill to Dalkey Island**

SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.

Lambay Island SAC

1.2.2.57 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Lambay Island SAC (located 130.4 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- grey seal.

1.2.2.58 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts:

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

1.2.2.59 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Lambay Island SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Saltee Islands SAC

1.2.2.60 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on the Saltee Islands SAC (located 259.3 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The Annex II marine mammal species that are qualifying features of this European site and were screened into assessment are:

- grey seal.

1.2.2.61 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) assesses the following impacts.

- Injury and disturbance from underwater sound generation from UXO clearance (during the construction phase).
- In-combination effects.

1.2.2.62 Based on the evidence set out in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Saltee Islands SAC as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Offshore ornithology

Liverpool Bay/Bae Lerpwl SPA

1.2.2.63 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on offshore ornithological features of the Liverpool Bay/Bae Lerpwl SPA (overlapping with the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The seabird species that are qualifying features of this European site and were screened into assessment are:

- red-throated diver *Gavia stellata*;
- cormorant *Phalacrocorax carbo*;
- common scoter *Melanitta nigra*; and
- red-breasted merganser *Mergus serrator*.

1.2.2.64 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Disturbance and displacement from airborne sound, underwater sound and presence of vessels and infrastructure (during construction, operation and maintenance and decommissioning phases).
- Indirect impacts from underwater sound affecting prey species (during construction and decommissioning phases).
- Temporary habitat loss/disturbance and increased SSC (during construction, operation and maintenance and decommissioning phases).
- In-combination effects.

1.2.2.65 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Liverpool Bay/Bae Lerpwl SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Ribble and Alt Estuaries Ramsar site

1.2.2.66 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on offshore ornithological features of the Ribble and Alt Estuaries Ramsar site (overlapping with the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The seabird species that are qualifying features of this European site and were screened into assessment are:

- red-throated diver;
- cormorant; and
- common scoter.

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- 1.2.2.67 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Disturbance and displacement from airborne sound, underwater sound and presence of vessels and infrastructure (during construction, operation and maintenance and decommissioning phases).
 - Indirect impacts from underwater sound affecting prey species (during construction and decommissioning phases).
 - Temporary habitat loss/disturbance and increased SSC (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.
- 1.2.2.68 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Ribble and Alt Estuaries Ramsar site as a result of the Transmission Assets alone, or in combination with other plans and projects.**
- Ribble and Alt Estuaries SPA**
- 1.2.2.69 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on offshore ornithological features of the Ribble and Alt Estuaries SPA (overlapping with the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The seabird species that are qualifying features of this European site and were screened into assessment are:
- scaup *Aythya marila*;
 - cormorant; and
 - common scoter.
- 1.2.2.70 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Disturbance and displacement from airborne sound, underwater sound and presence of vessels and infrastructure (during construction, operation and maintenance and decommissioning phases).
 - Indirect impacts from underwater sound affecting prey species (during construction and decommissioning phases).
 - Temporary habitat loss/disturbance and increased SSC (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.
- 1.2.2.71 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the**

Ribble and Alt Estuaries SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.

Morecambe Bay and Duddon Estuary SPA

1.2.2.72 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on offshore ornithological features of the Morecambe Bay and Duddon Estuary SPA (located 15.8 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The seabird species that are qualifying features of this European site and were screened into assessment are:

- eider *Somateria mollissima*;
- cormorant; and
- red-breasted merganser.

1.2.2.73 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Disturbance and displacement from airborne sound, underwater sound and presence of vessels and infrastructure (during construction, operation and maintenance and decommissioning phases).
- Indirect impacts from underwater sound affecting prey species (during construction and decommissioning phases)
- Temporary habitat loss/disturbance and increased SSC (during construction, operation and maintenance and decommissioning phases).
- In-combination effects.

1.2.2.74 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Morecambe Bay and Duddon Estuary SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Morecambe Bay Ramsar site

1.2.2.75 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on offshore ornithological features of the Morecambe Bay Ramsar site (located 15.8 km from the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The seabird species that are qualifying features of this European site and were screened into assessment are:

- eider;
- cormorant; and
- red-breasted merganser.

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- 1.2.2.76 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Disturbance and displacement from airborne sound, underwater sound and presence of vessels and infrastructure (during construction, operation and maintenance and decommissioning phases).
 - Indirect impacts from underwater sound affecting prey species (during construction and decommissioning phases).
 - Temporary habitat loss/disturbance and increased SSC (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.

- 1.2.2.77 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Morecambe Bay Ramsar site as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Onshore and intertidal ornithology

Liverpool Bay/Bae Lerpwl SPA

- 1.2.2.78 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Liverpool Bay/Bae Lerpwl SPA (overlapping with the Offshore Order Limits). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:
- common scoter
 - red-throated diver
 - common tern *Sterna hirundo*.
- 1.2.2.79 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
 - Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.
- 1.2.2.80 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Liverpool Bay/Bae Lerpwl SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Ribble and Alt Estuaries SPA

1.2.2.81 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Ribble and Alt Estuaries SPA (overlapping with the Intertidal Infrastructure Area). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:

- bar-tailed godwit *Limosa lapponica*;
- black-tailed godwit *Limosa limosa*;
- common tern *Sterna hirundo*;
- golden plover *Pluvialis apricaria*;
- grey plover *Pluvialis squatarola*;
- knot *Calidris canutus*;
- lesser black-backed gull *Larus fuscus*;
- oystercatcher *Haematopus ostralegus*;
- pink-footed goose *Anser brachyrhynchus*;
- redshank *Tringa tetanus*;
- ringed plover *Charadrius hiaticula*;
- ruff *Calidris pugnax*;
- sanderling *Calidris alba*;
- shelduck *Tadorna tadorna*;
- teal *Anas crecca*;
- whooper swan *Cygnus cygnus*;
- wigeon *Anas penelope*;
- dunlin *Calidris alpina*;
- non-breeding waterbird assemblage; and
- breeding waterbird assemblage.

1.2.2.82 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
- Permanent loss of supporting habitats (during construction and decommissioning phases).
- Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).

-
- In-combination effects.

1.2.2.83 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Ribble and Alt Estuaries SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Ribble and Alt Estuaries Ramsar site

1.2.2.84 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Ribble and Alt Estuaries Ramsar site (overlapping with the Intertidal Infrastructure Area). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. Bird species that are qualifying features of this European site and were screened into assessment include:

- bar-tailed godwit;
- black-tailed godwit;
- dunlin;
- grey plover;
- knot;
- oystercatcher;
- pink-footed goose;
- redshank;
- ringed plover;
- golden plover;
- sanderling;
- teal;
- whooper swan; and
- wigeon.

1.2.2.85 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
- Permanent loss of supporting habitats (during construction and decommissioning phases).
- Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).

-
- In-combination effects.

- 1.2.2.86 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Ribble and Alt Estuaries Ramsar site as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Martin Mere SPA

- 1.2.2.87 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Martin Mere SPA (located 11.49 km from the Onshore Order Limits and the Intertidal Infrastructure Area (combined)). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:

- pink-footed goose.

- 1.2.2.88 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Temporary loss of supporting habitats and/or resource availability (during construction and decommissioning phases).
- Permanent loss of supporting habitats (during construction and decommissioning phases).
- Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction and decommissioning phases).
- In-combination effects.

- 1.2.2.89 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Martin Mere SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Martin Mere Ramsar site

- 1.2.2.90 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Martin Mere Ramsar site (located 11.49 km from the Onshore Order Limits and the Intertidal Infrastructure Area (combined)). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:

- pink-footed goose.

-
- 1.2.2.91 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Temporary loss of supporting habitats and/or resource availability (during construction and decommissioning phases).
 - Permanent loss of supporting habitats (during construction and decommissioning phases).
 - Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction and decommissioning phases).
 - In-combination effects.
- 1.2.2.92 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Martin Mere Ramsar site as a result of the Transmission Assets alone, or in combination with other plans and projects.**
- Morecambe Bay and Duddon Estuary SPA**
- 1.2.2.93 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Morecambe Bay and Duddon Estuary SPA (located 15.8 km from the Onshore Order Limits and the Intertidal Infrastructure Area (combined)). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:
- golden plover;
 - herring gull *Larus argentatus*;
 - lesser black-backed gull;
 - curlew *Numenius arquata*;
 - sandwich tern *Thalasseus sandvicensis*; and
 - pink-footed goose.
- 1.2.2.94 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
 - Permanent loss of supporting habitats (during construction and decommissioning phases).
 - Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.

-
- 1.2.2.95 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Morecambe Bay and Duddon Estuary SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Morecambe Bay Ramsar site

- 1.2.2.96 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Morecambe Bay Ramsar site (located 15.8 km from the Onshore Order Limits and the Intertidal Infrastructure Area (combined)). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:

- golden plover;
- herring gull;
- lesser black-backed gull;
- curlew;
- sandwich tern; and
- pink-footed goose.

- 1.2.2.97 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.
- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
 - Permanent loss of supporting habitats (during construction and decommissioning phases).
 - Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).
 - In-combination effects.

- 1.2.2.98 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Morecambe Bay Ramsar site as a result of the Transmission Assets alone, or in combination with other plans and projects.**

Bowland Fells SPA

- 1.2.2.99 The HRA Stage 1 Screening Report (document reference: E3) could not rule out the risk of LSE on onshore and intertidal ornithological features of the Bowland Fells SPA (located 17.4 km from the Onshore Order Limits and the

Intertidal Infrastructure Area (combined)). The impacts of the Transmission Assets have been assessed with respect to the conservation objectives of this site. The bird species that are qualifying features of this European site and were screened into assessment are:

- lesser black-backed gull.

1.2.2.100 The HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) assesses the following impacts.

- Temporary loss of supporting habitats and/or resource availability (during construction, operation and maintenance and decommissioning phases).
- Permanent loss of supporting habitats (during construction and decommissioning phases).
- Disturbance and displacement from construction, decommissioning, and operation and maintenance activities (during construction, operation and maintenance and decommissioning phases).
- In-combination effects.

1.2.2.101 Based on the evidence and commitments set out in the HRA Stage 2 ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3), it was concluded that the conservation objectives for the site would not be undermined and there would be **no adverse effect on the integrity of the Bowland Fells SPA as a result of the Transmission Assets alone, or in combination with other plans and projects.**

1.3 Introduction

1.3.1 Overview of the Morgan and Morecambe Offshore Wind Farms: Transmission Assets

1.3.1.1 Morgan OWL, a joint venture between bp Alternative Investments Ltd. (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW), is developing the Morgan Offshore Wind Project: Generation Assets. The Morgan Offshore Wind Project: Generation Assets is a proposed wind farm in the east Irish Sea.

1.3.1.2 Morecambe OWL, a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) (Cobra) and Flotation Energy Ltd, is developing the Morecambe Offshore Windfarm: Generation Assets, also located in the east Irish Sea.

1.3.1.3 Both the Morgan Offshore Wind Project: Generation Assets and the Morecambe Offshore Windfarm: Generation Assets have been awarded licences during The Crown Estate's Offshore Wind Leasing Round 4 process. Both offshore wind farms have a critical role to play in helping the United Kingdom (UK) to achieve its net zero ambitions and to reach offshore wind generation goals. Further details of the relevant planning policy context are provided in Volume 1, Chapter 2: Policy and legislation context of this Environmental Statement (ES) (document reference: F1.2).

-
- 1.3.1.4 The Generation Assets were scoped into the 'Pathways to 2030' workstream under the Offshore Transmission Network Review (OTNR). The OTNR aims to consider, simplify and wherever possible, facilitate a collaborative approach to offshore wind projects connecting to the National Grid.
- 1.3.1.5 Under the OTNR, the National Grid Electricity System Operator (NGESO) is responsible for assessing options to improve the coordination of offshore wind generation connections and transmission networks and undertook a Holistic Network Design Review (HNDR). In July 2022, the UK Government published the 'Pathway to 2030 Holistic Network Design' documents, which set out the approach to connecting 50 GW of offshore wind to the National Grid (NGESO, 2022). A key output of the HNDR process was the conclusion that the Generation Assets should work collaboratively in connecting their two wind farms to the National Grid electricity transmission network at Penwortham in Lancashire.
- 1.3.1.6 The Applicants are jointly seeking a single consent for their electrically separate Transmission Assets comprising aligned offshore export cable corridors to landfall and aligned onshore export cable corridors to separate onshore substations, and onward connection to the National Grid at Penwortham, Lancashire.
- 1.3.1.7 The design philosophy is for the transmission infrastructure for each wind farm to remain electrically independent (i.e., each wind farm to have its own sets of cabling and substation infrastructure). However, the location of the infrastructure has been aligned within adjacent offshore and onshore cable corridors (where practicable) to minimise impacts to the environment and the community.
- 1.3.1.8 Both wind farms will have a capacity of over 100 MW and are located wholly in English waters. They are therefore Nationally Significant Infrastructure Projects under the Planning Act 2008. They both therefore require applications for development consent to be made to the Planning Inspectorate. These applications were made in April and May 2024 for the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets, respectively.
- 1.3.1.9 Following a request from the Applicants, on 4 October 2022, the Secretary of State issued a direction under section 35 of the Planning Act 2008 that the Transmission Assets should be treated as a 'development for which development consent is required'.
- 1.3.1.10 Applications for development consent under the Planning Act 2008 are submitted to and examined by the Planning Inspectorate and determined by the relevant Secretary of State. At the time of writing, this is the Secretary of State for Energy Security and Net Zero.
- 1.3.1.11 The HRA Stage 2 ISAA accompanies an application for a single Development Consent Order (DCO) that would give consent to two electrically separate sets of transmission infrastructure and associated works.
- 1.3.1.12 In addition to the draft development consent order applications, marine licences (i.e., two for the Morgan Offshore Wind Project: Transmission Assets and two for the Morecambe Offshore Windfarm: Transmission Assets)

are required before carrying out any licensable marine activity under the Marine and Coastal Access Act 2009. Marine licences can be deemed under the DCO for licensable activities in English waters and are being sought as part of the DCO Application.

- 1.3.1.13 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) presents the assessment of the potential for the Transmission Assets to result in adverse effects on the integrity of any European site, in view of that site's conservation objectives, alone or in-combination with other plans/projects. This has been prepared to inform the statutory consultation alongside the ES.

1.3.2 Project description of Transmission Assets

- 1.3.2.1 An overview of the Transmission Assets is outlined in the paragraphs below and the full project description is provided in Volume 1, Chapter 3: Project description of the ES (document reference: F1.3).
- 1.3.2.2 The Transmission Assets Order Limits represent the area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds). The offshore elements of the Transmission Assets are located in the east Irish Sea within English offshore waters (beyond 12 nm from the English coast) and inshore waters (within 12 nm from the English coast). The onshore elements of the Transmission Assets are located within the local authority areas of Fylde Council, Blackpool Council, South Ribble Borough Council, Preston City Council and Lancashire County Council.
- 1.3.2.3 The order limits can be further divided and referred to based on where they are located as follows (see **Figure 1.1**).
- Offshore Order Limits: The area seaward of Mean Low Water Springs (MLWS) within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
 - Intertidal Infrastructure Area: the temporary and permanent areas between MLWS and MHWS. This includes temporary working areas, and temporary and permanent accesses.
 - Onshore Order Limits: The area landward of Mean High Water Springs (MHWS) within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).
- 1.3.2.4 The onshore, intertidal and offshore infrastructure has been identified for both the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. A description of all infrastructure is provided in Volume 1, Chapter 3: Project description of the ES (document reference: F1.3). The locations of the infrastructure are presented in Location Plans (document reference B1-B3) and Works Plans (document reference: B7-B10).

- 1.3.2.5 Key summary parameters for the Transmission Assets are presented in **Table 1.1**.
- 1.3.2.6 At this stage, the timing of construction activities is indicative. At the time of writing, both the Generation Assets intend to be fully operational by 2030. For the purposes of assessments presented in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) and ES, it is anticipated earliest construction start date for the Transmission Assets (i.e., both Morgan Offshore Wind Project: Transmission Assets and Morecambe Offshore Windfarm: Transmission Assets) is 2027. The Transmission Assets will have an operational lifetime of 35 years.

Table 1.1: Key summary parameters for the Transmission Assets

Parameter	Morgan Offshore Wind Project: Generation Assets	Morecambe Offshore Windfarm: Generation Assets	Total
Offshore Infrastructure			
Maximum number of offshore export cables	4	2	6
Maximum length of offshore export cables (km) – per cable	100	42	N/A
Maximum length of offshore export cables (km) – all cables	400	84	484
Onshore Infrastructure			
Maximum number of onshore export cables	12 (4 circuits)	6 (2 circuits)	18 (6 circuits)
Maximum number of 400 kV grid connection cables	6 (2 circuits)	6 (2 circuits)	12 (4 circuits)
Maximum length of onshore export cables (220 / 275 kV) (km)	16	17	N/A
Maximum number of onshore substations	1	1	2
Maximum length of 400 KV grid connection cables (km)	13	13	N/A

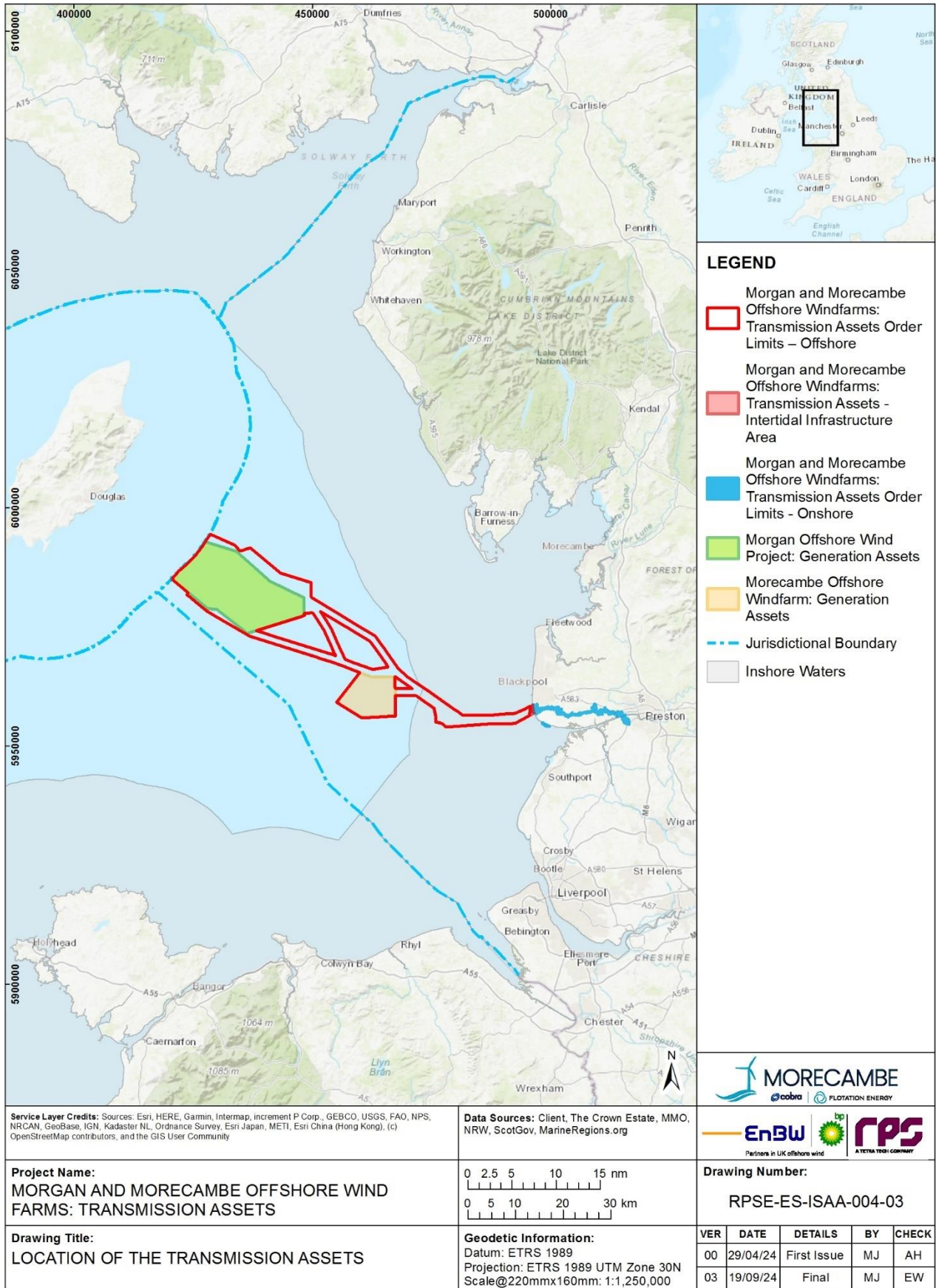


Figure 1.1: Location of the Transmission Assets (not to scale)

1.4 The Habitats Regulations Assessment process

1.4.1 Overview of the Habitats Regulations Assessment

- 1.4.1.1 The requirement and process for the consideration of potential impacts of plans and projects on European sites have followed the European Union's (EU) Habitats Directive (Directive 92/43/EEC). In terrestrial areas of the UK and territorial waters out to 12 nm, the land and marine aspects of Habitats Directive and certain elements of the Wild Birds Directive (Directive 2009/147/EC) are transposed into UK law through The Conservation of Habitats and Species Regulations 2017. In waters beyond 12 nm, The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the Offshore Habitats Regulations) apply, which transpose the Habitats and Birds Directives into national law. These regulations are together referred to as the Habitats Regulations.
- 1.4.1.2 Under the Habitats Regulations, an Appropriate Assessment must be carried out on all plans and projects that are likely to have a significant effect on a European site. European sites include SACs, candidate SACs (cSACs), Site of Community Importance (SCIs), Special Protection Areas (SPAs) and as a matter of policy (Department for Environment, Food & Rural Affairs (Defra), 2021), possible SACs (pSACs) and potential SPAs (pSPAs). In the UK, the requirements of the Habitats Regulations are also extended to consider the effects on Ramsar sites (listed under the Ramsar Convention on Wetlands of International Importance) and sites which are used to compensate for adverse impacts on other European sites. These sites in the UK now form part of the National Site Network but the term "European site" has been retained for sites protected in European Union Member States, England and Wales and the rest of the UK in accordance with guidance issued by the UK Government on the changes made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to the Conservation of Habitats and Species Regulations 2017 (Defra, 2021).
- 1.4.1.3 The Defra (2021) guidance outlines that the HRA process can have up to three stages, as outlined below, where the outcome of each successive stage determines whether a further stage in the process is required.
1. Screening.
 2. Appropriate Assessment.
 3. Derogation.
- 1.4.1.4 Further information on HRA methods, guidance and case law is provided in **sections 1.4.2 to 1.4.7.**

1.4.2 Legislative context

- 1.4.2.1 The Habitats Directive on the conservation of natural habitats and of wild fauna and flora, protects habitats and species of European nature conservation importance. Together with Council Directive (2009/147/EC) on the conservation of wild birds (the 'Birds Directive'), the Habitats Directive provide the EU's legal framework for the protection of wild fauna and flora

and birds and establishes a network of internationally important sites, known as Natura 2000 sites or European sites, designated for their ecological status. This network of designated sites includes:

- SACs which are designated under the Habitats Directive and promote the protection of flora, fauna and habitats; and
- SPAs which are designated under the Birds Directive in order to protect rare, vulnerable and migratory birds.

- 1.4.2.2 In terrestrial areas of the UK and territorial waters out to 12 nm, the land and marine aspects of the Habitats Directive and certain elements of the Birds Directive are transposed into UK law through The Conservation of Habitats and Species Regulations 2017. In waters beyond 12 nm, The Offshore Habitats Regulations apply, which transpose the Habitats and Birds Directives into national law.
- 1.4.2.3 The UK is no longer an EU Member State, but the Habitats Directive, as implemented by the Habitats Regulations continues to provide the legislative framework for HRA in the UK. The HRA process implemented under the Habitats Regulations continues to apply (subject to minor changes affected by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the UK is bound by HRA judgments handed down by The Court of Justice of the European Union (CJEU) prior to 31 December 2020¹.
- 1.4.2.4 The objective of the Habitats Regulations is to conserve, at a Favourable Conservation Status (FCS), those qualifying habitats and species and supporting habitats of qualifying species listed in Annexes I and II of the Habitats Directive and Annex I of the Birds Directive. Post EU-Exit, the Habitats Regulations continue to refer to Annexes I and II of the Habitats Directive and Annex I of the Birds Directive and as such, reference is made to the annexes of the Habitats and Birds Directives in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3).
- 1.4.2.5 In addition to sites formally defined as European sites in the Habitats Regulations, UK Government policy (ODPM Circular 06/2005) states that Wetlands of International Importance listed and proposed under the Ramsar Convention 1971 (Ramsar sites) are afforded the same protection. As a matter of policy, the UK Government also affords proposed and candidate sites going through the formal designation process (i.e., pSPAs, cSACs and pSACs), SCIs and potential Ramsar sites, the same level of protection.
- 1.4.2.6 Under the Habitats Regulations, before granting approval (i.e., planning permissions, licenses and consents) for a development likely to have a significant effect on an SAC or SPA/Ramsar site, an Appropriate Assessment must be made by the Competent Authority, of the proposed plan or project's

¹ The UK Supreme Court may depart from binding pre-EU Exit case law if they consider it 'right to do so' and the Inner House of the Court of Session may depart from such case law in certain circumstances.

potential for adverse effects on integrity of the site in view of that site's conservation objectives.

1.4.3 European sites (post EU exit)

- 1.4.3.1 European sites (SACs and SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The changes made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 created a National Site Network on land and at sea, including both the inshore and offshore marine areas in the UK. The National Site Network comprises of European sites (SACs and SPAs) in the UK that already existed (i.e., were established under the Habitats or Birds Directives) on 31 December 2020 (or proposed to the European Commission (EC) before that date) and any new sites designated under the Habitats Regulations under an amended designation process.
- 1.4.3.2 Ramsar sites do not form part of the National Site Network. Many Ramsar sites overlap with SACs and SPAs and all Ramsar sites remain protected in the same way, as per Defra (2021).

1.4.4 The HRA process

- 1.4.4.1 Regulation 28 of the Conservation of Offshore Marine Habitats and Species Regulations 2017 and Regulation 63 of the Conservation of Habitats and Species Regulations 2017, require that wherever a plan or project that is not directly connected to, or necessary for, the management of a European site is likely to have a significant effect on the conservation objectives of the site (directly, indirectly, alone or in-combination with other plans or projects), an 'Appropriate Assessment' of the implications of the plan or project for that site in view of that site's conservation objectives must be undertaken by the Competent Authority before consent or authorisation can be given for the plan or project.
- 1.4.4.2 The Habitats Regulations make it clear that the person applying for the consent of the plan or project must provide such information as the Competent Authority may reasonably require for the purposes of the assessment. The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) provides this information.
- 1.4.4.3 HRA is a multi-stage process which helps to determine LSE, assesses adverse impact on the integrity of a European site and examines alternative solutions and provides justification of Imperative Reasons of Overriding Public Interest (IROPI), as required. The Defra (2021) guidance describes that the process can have up to three stages as outlined below and shown in **Figure 1.2**.
- Screening – the first stage involves a screening for LSE which is a simple assessment to check or screen if, in the absence of mitigation, a proposal:
 - is directly connected with or necessary for the conservation management of a European site; and

-
- risks having a significant effect on a European site on its own or in combination with other proposals.
 - Appropriate Assessment – the second stage is an Appropriate Assessment, which must be carried out if it is decided that there is a risk of a LSE on a European site or if there is not enough evidence to rule out a risk (as required by Article 6(3) of the Habitats Directive). The Appropriate Assessment should assess the LSEs of a proposal on the integrity of the site and its conservation objectives and consider ways to avoid or reduce (mitigate) any potential for an ‘Adverse Effect on the Integrity of the site’.
 - Derogations – the third stage is known as a derogation (as outlined in Article 6(4) of the Habitats Directive) where, in certain circumstances, a proposal that has failed the integrity test may be allowed to go ahead. To decide if the proposal qualifies for a derogation, three legal tests must be applied. All three tests must be passed in sequence for a derogation to be granted.
 - There are no feasible alternative solutions that would be less damaging or avoid damage to the site.
 - The proposal needs to be carried out for IROPI.
 - The necessary compensatory measures can be secured.

1.4.4.4 This report considers the second stage ‘Appropriate Assessment’ in the HRA process in **Figure 1.2**.

1.4.4.5 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 establish management objectives for the National Site Network. These are called the network objectives. The objectives in relation to the National Site Network are to:

- maintain or restore certain habitats and species listed in the Habitats Directive to FCS; and
- contribute to ensuring the survival and reproduction of certain species of wild bird in their area of distribution and to maintaining their populations at levels which correspond to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements.

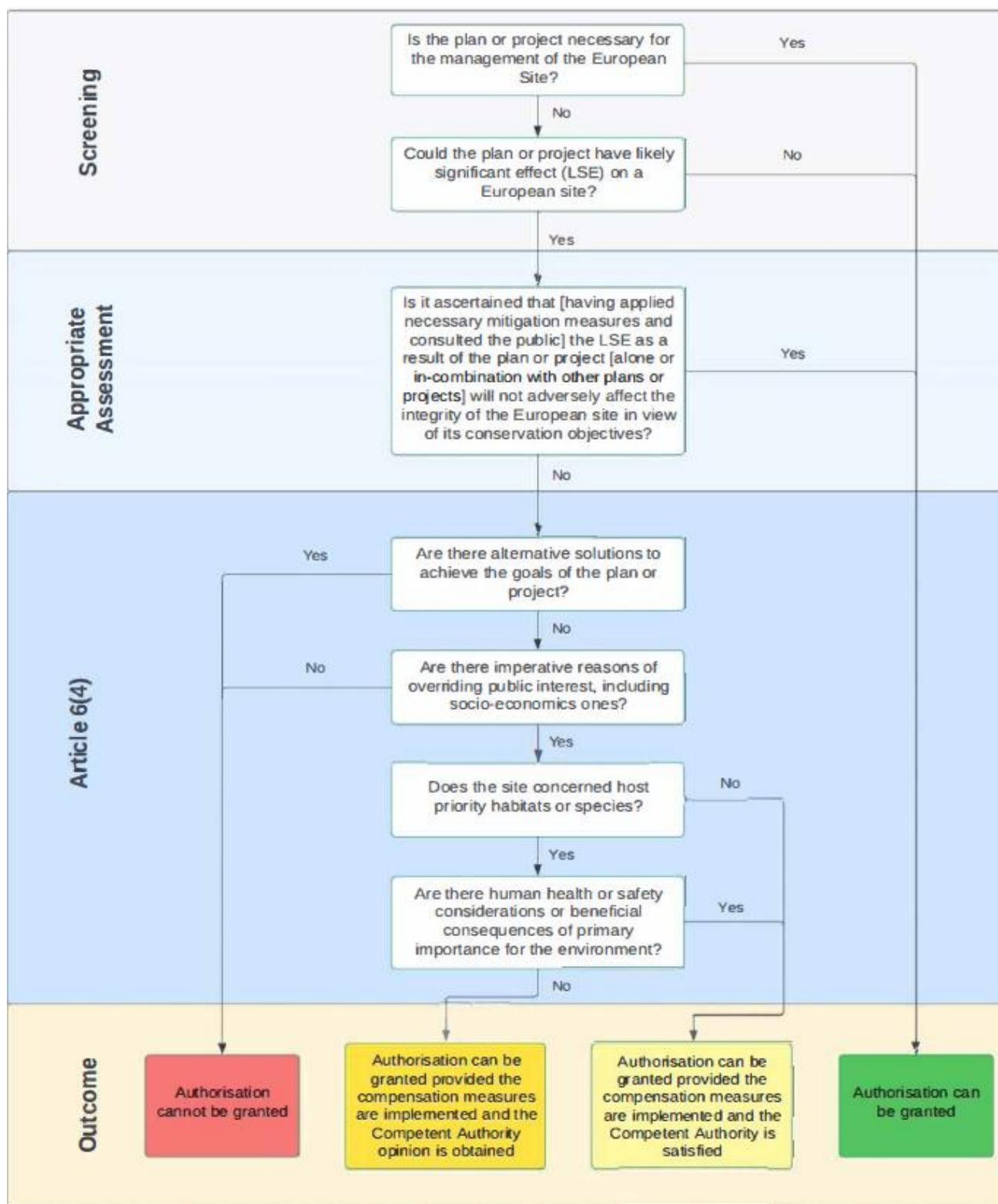


Figure 1.2: Stages in the HRA Process (adopted from EC, 2021)

1.4.5 The Crown Estate Plan-Level HRA

- 1.4.5.1 The Crown Estate (TCE), in its role as Competent Authority, conducted a Plan-Level HRA (TCE, 2022) for the Offshore Wind Leasing Round 4. The Plan-Level HRA assessed the potential impacts of the six potential offshore wind projects identified through the Offshore Wind Leasing Round 4, including both the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm, on the National Site Network.
- 1.4.5.2 The Plan-Level HRA process involved engagement and consultation with an Expert Working Group consisting of relevant UK statutory marine planning authorities, Statutory Nature Conservation Bodies (SNCBs) and relevant non-governmental organisations.
- 1.4.5.3 TCEs Plan-Level HRA (TCE, 2022) concluded that the possibility of an adverse effect on the integrity of a site as a result of the Offshore Wind Leasing Round 4 could not be ruled out for two protected sites forming part of the National Site Network. The two protected sites and relevant features, are:
- sandbank features of the Dogger Bank SAC alone and in-combination; and
 - kittiwake feature of the Flamborough and Filey Coast SPA for in-combination effects only.
- 1.4.5.4 The TCE Plan Level HRA states that where the assessment identifies risk of an Adverse Effect on Integrity on these sites, options for mitigation that can be applied at the Plan-level will be considered. This could involve a modification to the Plan to reduce its impact or the specification of measures that would be made a condition of individual projects. Where the HRA identifies a potential Adverse Effect on Integrity, only when it is sufficiently certain that mitigation would make an effective contribution to avoiding or reducing harm, can mitigation measures be considered as enabling a determination of no Adverse Effect on the Integrity of a site to be concluded.
- 1.4.5.5 It should be noted, however, that the Morgan Offshore Wind Project and Morecambe Offshore Windfarm were not required to be considered in the appropriate assessment for either of these sites, due to the sites' location on the East coast of England. Therefore, no adverse effect on site integrity was identified for the Transmission Assets in the Plan-Level HRA.
- 1.4.5.6 The Plan-Level HRA notes that TCE expects developers to undertake project-specific environmental assessments, including a detailed project-level HRA, as part of their application for development consent. The documents listed in **paragraph 1.1.3.1** comprise Stage 2 of the HRA, which carries out the Appropriate Assessment of the Transmission Assets with respect to its potential to adversely affect the integrity of a European site. The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) has taken into account the information and approach taken by the Plan Level HRA as set out below in **paragraph 1.4.6.1**.

1.4.6 Guidance

- 1.4.6.1 The HRA Stage 2 ISAA Part 2: SACs Assessment (document reference E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) has drawn upon a number of information sources, HRA principles, regulations and guidance documents, including the following.
- The Conservation of Habitats and Species Regulations 2017 (as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019) and The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the Offshore Habitats Regulations).
 - EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg.
 - EC (2006) Nature and Biodiversity Cases Ruling of the European Court of Justice.
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1.4.7 Case law relevant to the HRA Stage 2 ISAA

Consideration of mitigation measures

- 1.4.7.1 In case C-323/17 ‘People Over Wind and Sweetman v Coillte Teoranta’ (April 2018) (Sweetman 2), the CJEU ruled that mitigation measures could not be taken into account at the screening stage. The approach taken in the HRA Stage 1 Screening Report (document reference: E3) for the Transmission Assets complied with this judgement and no mitigation measures were considered in the HRA Stage 1 Screening Report (document reference: E3).

Adverse effects on Integrity

- 1.4.7.2 The EC’s guidance on managing Natura 2000 sites (EC, 2019) states that the purpose of the Appropriate Assessment is to assess the implications of the plan or project in regards to the conservation objectives of the European site, this may be from the plan/project alone or in-combination with other plans or projects. The conclusions should enable the relevant Competent Authority to conclude whether the plan or project will adversely affect the integrity of the site concerned. The focus of the Appropriate Assessment is therefore specifically on the designated features (species and/or the habitats) of the European site.
- 1.4.7.3 The best scientific knowledge should always be used when undertaking an Appropriate Assessment in order to enable the competent authorities to conclude with certainty that there will be no Adverse Effects on the Integrity of the site. The EC guidance (2019) notes that at the time of the decision to authorise the implementation of a project, there must be no reasonable scientific doubt remaining as to the potential for Adverse Effects on the Integrity of the site being assessed.
- 1.4.7.4 The judgment of the CJEU confirmed in its ruling in Sweetman, Ireland, Attorney General, Minister for the Environment, Heritage and Local Government v An Bord Pleanála) (C-258/11) (Sweetman 1) that ‘Article 6(3) of the Habitats Directive must be interpreted as meaning that a plan or project not directly connected with or required for the management of a site will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site. The constitutive characteristics of a site are those that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the

designation of the site in the list of SCIs. The precautionary principle should be applied for the purposes of that appraisal'. EC (2019) advises that this interpretation would also be relevant to non-priority habitat types and to habitats of the designated species.

- 1.4.7.5 EC (2019) defines the 'integrity of the site' 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. In Sweetman 1, it was determined that the ecological structure and function of a European site would be adversely affected with regards to the site's overall ecological functions and "*the lasting preservation of the constitutive characteristics of the site*".
- 1.4.7.6 EC (2019) also states that if the Competent Authority considers that the relevant mitigation measures are sufficient to avert the adverse effects on site integrity identified in the Appropriate Assessment, they are then required to become an essential element of the final plan or project design or may be listed as a condition for project consent.
- 1.4.7.7 EC (2020) states it is the Competent Authority's responsibility to approve the plan or project; a decision made on the basis of the information provided by the applicants to inform the Appropriate Assessment. The decision can only be made after the Competent Authority is satisfied beyond reasonable scientific doubt that the plan or project will not an Adverse Effect on the Integrity of the site.
- 1.4.7.8 EC (2020) also reaffirms that the authorisation criterion laid down in the second sentence of Article 6(3) of the Habitats Directive integrates the precautionary principle and makes it possible to effectively prevent the protected sites from suffering adverse effects on their integrity as the result of the plans or projects in question. A less stringent authorisation criterion could not as effectively ensure the fulfilment of the objective of site protection intended under that provision. The onus is therefore on demonstrating the absence of adverse effects rather than their presence, reflecting the precautionary principle. The Appropriate Assessment must therefore be adequately detailed and justified to highlight the absence of adverse effects, using the best scientific knowledge available. The Appropriate Assessments presented in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) has followed this precautionary approach, including, but not limited to, the application of conservative assumptions in Maximum Design Scenarios for the project parameters, baseline characterisation and project-specific modelling.
- 1.4.7.9 In accordance with the decision of the CJEU in Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij (C-127/02), the measure of significance is made against the conservation objectives for which the European sites were designated.

1.5 Consideration of ex situ effects

- 1.5.1.1 EC (2019) advises that Article 6(3) safeguards be applied to any development pressures, including those which are outside of the boundaries of European sites, but which are likely to have significant effects on that European site.
- 1.5.1.2 The CJEU developed this point when it issued a ruling in case C-461/17 (Brian Holohan, Richard Guilfoyle, Noric Guilfoyle, Liam Donegan v An Bord Pleanála [2017] IEHC 268). This ruling determined *inter alia* that Article 6(3) of the Habitats Directive must be interpreted as meaning that an Appropriate Assessment must identify all of the habitat types and species for which a site is protected. It must also, identify and assess both the effects of the proposed plan or project for the species present on that site and for which that site has not been listed and the implications for habitat types and species to be found outside the boundaries of that site, provided that the identified effects have the potential to affect the conservation objectives of the site.
- 1.5.1.3 On this basis, consideration has been given in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) to implications for designated habitats and species, located both inside and outside of the identified European site boundaries considered in the HRA Stage 1 Screening Report (document reference: E3). Consideration of the implications for the site has been made in view of the sites' conservation objectives where effects upon those habitats and/or species could potentially undermine the conservation objectives of the sites concerned.

1.6 Key changes to the HRA Stage 2 ISAA since the PEIR

- 1.6.1.1 The draft HRA Stage 2 ISAA that accompanied the PEIR has been updated following stakeholder feedback and additional data analysis for the Application. The main changes, which are reflected in the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) and ISAA Part 3: SPA and Ramsar Site Assessments (document reference: E2.3) submitted with the application, are detailed below.
- Removal of Offshore Substation Platforms and Morgan Offshore Booster Station from the Project Design Envelope, resulting in piling being screened out of the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) for Annex II fish and marine mammal features.
 - 'Effects on marine mammals due to changes in prey availability' has also been screened out of the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) submitted with the application for all Annex II marine mammal features. This is because any potential underwater sound impacts resulting from construction activities (e.g. UXO clearance, vessel movement, trenching, dredging, scour/export cable protections and cable laying) on marine mammal prey resources will be localised and largely restricted to the boundaries of the Offshore Order Limits. As such, only a small area will be affected when compared to available foraging

habitat in the Irish and Celtic Seas Marine mammals exploit a range of different prey items and can forage widely and change prey sources, sometimes covering extensive distances (see Volume 2, Chapter 4: Marine mammals of the ES; document reference F2.4). Given the highly mobile nature of marine mammals and type of fish and shellfish communities found around the Offshore Order Limits (which are characteristic of the wider Irish Sea) (see Table 1.17 of HRA Stage 1 Screening Report for further information; document reference: E3) it is highly likely that there will be similar prey resources available for marine mammals to exploit in the wider area.

- The impact ‘disturbance to marine mammals from pre-construction surveys’ has also been screened out of the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) for all Annex II marine mammal features as surveys will not be undertaken nearby or within any of the SACs identified and potential disturbance impact zones will not overlap with the SAC (see Table 1.17 of HRA Stage 1 Screening Report (document reference: E3) for further information).
- There has been a reduction in the number of vessels associated with all phases of the Transmission Assets, which has resulted in the impact ‘disturbance to marine mammals from vessel use and other sound-producing activities’ being screened out of the HRA Stage 2 ISAA Part 2: SACs Assessment (document reference: E2.2) for all Annex II marine mammal features. This impact has been screened out on the basis that the extent of potential disturbance will be spatially restricted to within the Offshore Order Limits and along vessel routes to ports used in support of the Transmission Assets during construction, operation and maintenance, and decommissioning phases. Sound modelling results have also demonstrated that the potential disturbance impact zones will not overlap with any SAC designated for marine mammal species. As such, this impact is unlikely to result in adverse impacts on Annex II marine mammal features, in terms of injury (Permanent Threshold Shift) or disturbance (Temporary Threshold Shift as a proxy) (see Table 1.17 of HRA Stage 1 Screening Report (document reference: E3) for further information).
- Inclusion of physical processes assessment in the HRA Stage 1 Screening Report, which resulted in ‘changes in physical processes’ on Annex I habitats features being screened out of the HRA Stage 2 ISAA Part 2: SACs Assessment (see HRA Stage 1 Screening Report (document reference: E3) for further information). This impact was screened out on the basis of physical processes modelling, which showed that effects from this impact will be spatially restricted to within 1 km of the Offshore Order Limits and the Intertidal Infrastructure Area. Since the closest SAC to the Transmission Assets (the Shell Flat and Lune Deep SAC) is located approximately 5.7 km from the Transmission Assets, it is outside the ZOI for this impact. Therefore, there is no potential for LSE on Annex I habitat features from changes in physical processes.

1.7 References

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