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APPENDIX 9B: HABITATS REGULATIONS ASSESSMENT SIGNPOSTING

1. Introduction

1.1. Purpose of Report

1.1.1 This Appendix of the Preliminary Environmental Information (PEI) Report represents a 'Habitats Regulations Assessment (HRA) Signposting Document' for the Proposed Development. The terms of reference used in this report are consistent with those defined within the main chapters of the PEI Report (Volume 1).

1.1.2 References are included, under relevant subject headings, to those chapters, technical appendices and/ or paragraphs within the

1.1.3 PEI Report that contain the information required by the competent authority to undertake an "appropriate assessment" under the terms of Regulation 61 of the Conservation of Habitats and Species Regulations 2017 (commonly referred to as the 'Habitats Regulations'). It is designed to serve two key functions:

- To assist the competent authority by making it easier to undertake and consult on a Habitats Regulations Assessment; and
- To act as a confirmatory checklist that can be used to ensure that the relevant information needed for a Habitats Regulations Assessment is adequately presented within this PEI Report.

1.2. Rationale for Scoping

1.2.1 It is a requirement of the EC Habitats Directive 1992 and the Habitats Regulations (Box 1.1) that plans and projects are subject to an 'appropriate assessment' if it is likely that they will lead to significant adverse effects on a Natura 2000 site (the collective name for European designated sites). It is the duty of the 'competent authority' to determine if significant adverse effects are likely and, if necessary, to then undertake the appropriate assessment, but the proponent of the scheme can be asked to supply sufficient data/ reports to enable such a decision to be reached.

1.2.2 In the past, the term 'appropriate assessment' has been used to describe both the overall process and a particular stage of that process (see below). The term Habitats Regulations Assessment (HRA) has come into use in order to refer to the process that leads to an "Appropriate Assessment", thus avoiding confusion. Throughout this report, HRA is used to refer to the overall procedure required by the Habitats Regulations. The Habitats Regulations set out a stepwise process, including an 'appropriate assessment' to consider the impacts and effects of the Proposed Development on the Natura 2000 site. Although the necessity for an Appropriate Assessment has not been established, this document has been prepared on the assumption that the competent authority will conclude that one is not required.

1.2.3 For statutory designated nature conservation sites subject to the provisions of the Habitats Regulations, it is usual to consider a search radius of 10 km when examining the potential pathways for air quality impacts on the sites.

1.2.4 One European designated site has been identified within this radius; this is the Humber Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site, which is approximately 1.4 km north-east of the Proposed Development. The SAC supports qualifying Annex I habitats that are potentially susceptible to the effects of emissions to air from the Proposed Development, and qualifying species that are susceptible to noise and visual disturbance.

1.2.5 Surface water pathways to the designated habitats (and thus the qualifying species they support) have also been considered because the surrounding surface water drainage network, into which surface water from the construction and operation of the Proposed Development will outfall, ultimately drains in the Humber Estuary.

Box 1.1: The legislative basis for determining Likely Significant Effect and for subsequent Appropriate Assessment, if required

Habitats Directive 1992

"*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives*."

Article 6 (3)

Conservation of Habitats and Species Regulations 2017

"*A competent authority, before deciding to … give any consent for a plan or project which is likely to have a significant effect on a European site or a European Offshore Marine Site (either alone or in combination with other plans or projects) … must make an appropriate assessment of the implications for the site in view of that sites conservation objectives … The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site …*".

Regulation 63

Overview of HRA Procedure and Context

1.2.6 Office of Deputy Prime Minister (ODPM) Circular 06/2005 (Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System) provides guidance on how the Regulations should be implemented. This is interpreted and summarised as follows:

- Determination of whether the proposal is likely to have a significant effect, either alone or cumulatively (referred to as 'in-combination' in HRA terms) with other plans or projects, on a European site;
- If a significant effect is likely, the competent authority must conduct an Appropriate Assessment of the implications for the site in view of the site's conservation objectives (Natural England, 2008);
- In considering the project's effects on the site's conservation objectives, the competent authority must determine whether it can ascertain that the proposal will not adversely affect the integrity of the site;
- Taking account of the way in which works are proposed to be carried-out, and the site conditions or other restrictions;

- Being satisfied that there are no alternative solutions which would have a lesser effect on site integrity;
- Considering whether there are Imperative Reasons of Overriding Public Interest (IROPI) to justify granting of permission for the development despite a potentially negative effect on site integrity; and
- In the absence of alternatives, and where the importance of the development outweighs the harm to a European site, consideration of proposed compensatory measures (to ensure that the overall coherence of the network of Natura 2000 sites is protected).

1.2.7 A flow chart of the HRA process (showing the decisions that are required at each stage) is provided as Plate 1.2 (below). A four-stage methodology for HRA would therefore include:

- HRA Stage 1: Screening (including a 'likely significant effect' judgement);
- HRA Stage 2: Appropriate Assessment;
- HRA Stage 3: Assessment of Alternative Solutions; and
- HRA Stage 4: Assessment where no alternative solutions exist and where adverse effects remain.

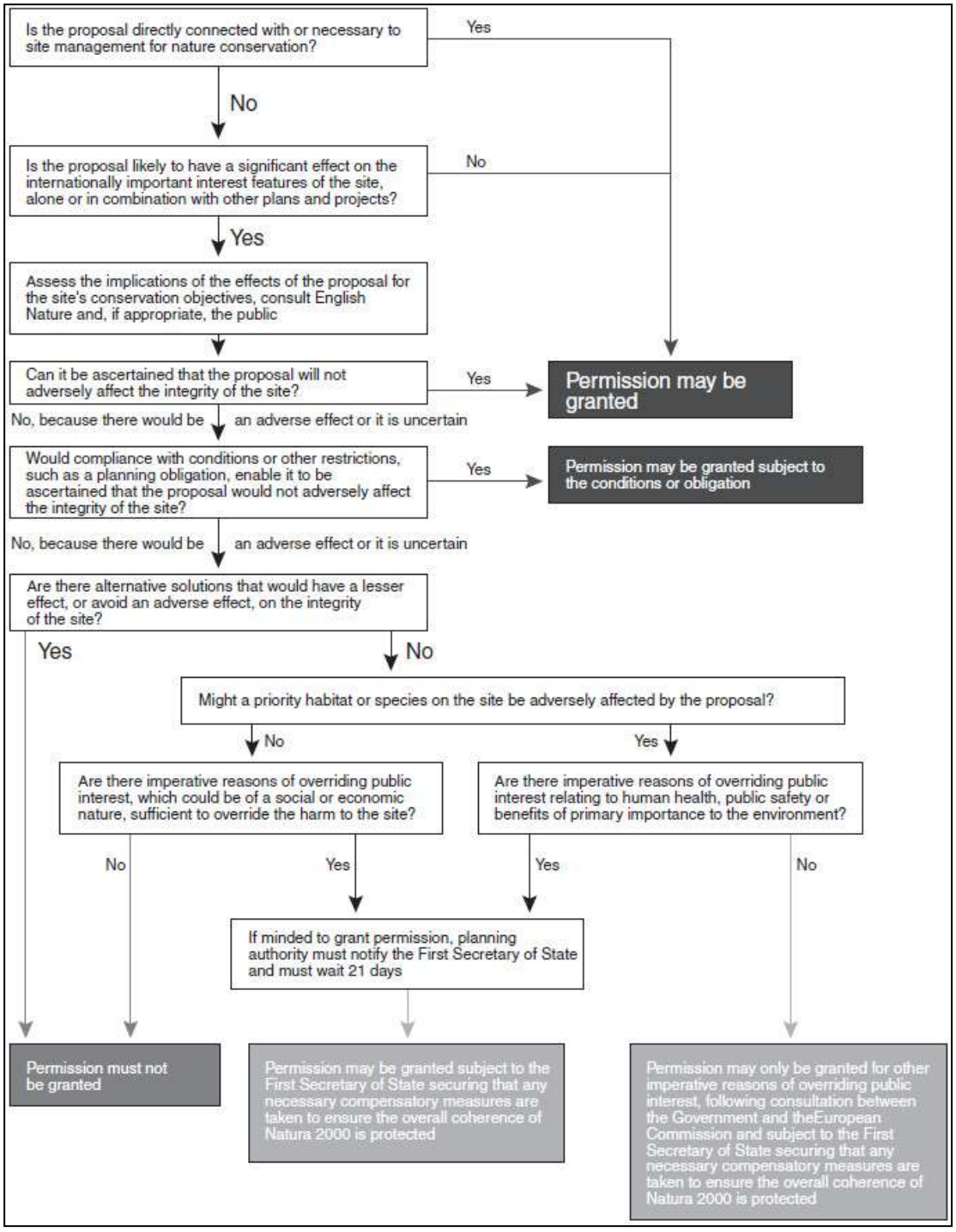
1.2.8 Whilst the Appropriate Assessment and any subsequent assessments are undertaken by a competent authority, the information needed to undertake the assessments is generally provided by the applicant. For the Proposed Development the necessary information is presented within Chapter 6: Air Quality and Chapter 9: Ecology of PEI Report Volume 1. Information on the Proposed Development is presented in Chapter 4: The Proposed Development in PEI Report Volume 1.

1.2.9 PEI Report Volume 1 (Chapters 6: Air Quality and 9: Ecology) concludes that the Proposed Development will not result in any significant adverse effects on the statutory designated sites identified above. It should be appreciated that the mechanism for Environmental Impact Assessment (EIA) used in the PEI Report (including how terminology is used, and how the importance of receptors is evaluated) differs from that adopted for HRA. Consequently, whilst it is considered that all the information necessary to undertake an HRA is contained within the main chapters of the PEI Report (Volume I), a separate process is still required to address the specific obligations of the Habitats Regulations. This is the role that this document seeks to bridge by assisting the competent authority in directing them to the necessary topics within the PEI Report Volume 1 chapters.

1.2.10 One primary difference between EIA and HRA relates to the context of the assessments. HRA is specifically designed to consider the effects of a plan of project on the integrity of a Natura 2000 site, including its designated features (regardless of whether or not they are geographically located within the site at the time). It considers the whole of the Natura 2000 site in some detail, and by definition focuses on a site acknowledged to be of international importance. EIA, on the other hand, adopts a different perspective. It considers the impacts resulting from a development, and whether they have the potential to affect different receptors. The significance of the effect on any receptor is measured by combining the magnitude of the impact, and the importance and sensitivity of the receptor itself. EIA therefore seeks to establish the level at which significant effects occur, which

may include Natura 2000 receptors at less than an international (possibly just at a local) level. All readers should be aware of this distinction when applying this signposting document.

Box 1.2: Consideration of development proposals affecting Internationally Designated Nature Conservation Sites (ODPM, 2005)



Consideration of People Over Wind, Peter Sweetman v Coillte Teoranta ECJ Ruling

1.2.11 This report has been prepared having regard to all relevant case law relating to the Habitats Regulations. In particular, the recent ruling by the European Court of Justice (ECJ) in the case of *People Over Wind, Peter Sweetman v Coillte Teoranta* (C-323/17) has been taken into account, because it influences the approach to HRA Screening Stage 1.

1.2.12 This case held that "*it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site*" (paragraph 40). This establishes that 'mitigation measures' cannot be taken into account at the screening stage, but it is important to note that not all mitigation measures are excluded from consideration – only those "*intended to avoid or reduce the harmful effects of the… project on that site*". Mitigation measures which are, for example, intended to avoid effects on a local watercourse outside the European site designated boundary but which outfalls into the European designated site, can be taken into account as the benefit conveyed to the European site is coincidental and the measures would be delivered as part of good practice even if no European sites were present.

1.2.13 Where mitigation measures are mentioned in this report, they are therefore ones which may reduce or avoid harmful effects on certain (local) habitats or species, but are not relied on to directly avoid or reduce harmful effects on the European sites that are the subject of this signposting report.

1.2.14 This represents a deviation from the approach usually adopted in the EcIA, which considers embedded mitigation (even those measures that are included to directly avoid or reduce harmful effects on a European designated site) to form a part of the Proposed Development, and takes these measures into account when assessing the potential impacts on qualifying habitats and species.

2. Baseline Evidence Gathering

2.1. Proposed Development Description and Alternatives

2.1.1 A detailed description of the Proposed Development is provided in Chapter 3: Description of the Site and Chapter 4: The Proposed Development, in PEI Report Volume 1.

2.1.2 The Proposed Development comprises a gas-fired Open Cycle Gas Turbine (OCGT) power station with a gross electrical output of up to 299 megawatts (MW).

2.1.3 Consideration of the different alternatives to the Proposed Development is provided in Chapter 6: Need and Alternatives in PEI Report Volume 1.

The Need for the Proposed Development

2.1.4 A comprehensive description of the project's rationale is presented in Chapter 5: Need and Alternatives in PEI Report Volume 1.

2.2. Designated Sites Scoped in to HRA Screening

2.2.1 Three European designations associated with the Humber Estuary have been scoped into the impact assessment in ES Chapter 9: Ecology.

2.2.2 A summary of the qualifying features for each of the three Natura 2000 sites and their distance from the Proposed Development is summarised in Table 9B.1 below.

Table 9B.1: Natura 2000 Sites Scoped into HRA Screening

Site	Approx. Distance from Site	Total Area (ha)	Summary of Primary Reasons for Site Selection	Summary of Qualifying Features
Humber Estuary SAC	1.4 km NE	36,657.15	Estuaries Mudflats and sandflats not covered by seawater at low tide	Sandbanks which are slightly covered by sea water all the time Coastal lagoons Salicornia and other annuals colonizing mud and sand Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Embryonic shifting dunes Shifting dunes along the shoreline with European marram grass (*Ammophila arenaria*) (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes) Dunes with common sea buckthorn (*Hippophae• rhamnoides*) River lamprey (Lampetra fluviatilis) Sea lamprey (*Petromyzon marnius*) Grey seal (*Halichoerus grypus*)
Humber Estuary SPA	1.4 km NE	37,630.24	Populations of European importance of Annex I and Annex II over-wintering wildfowl and wading birds. Internationally important assemblage of migratory and wintering birds.	N/A
Humber Estuary Ramsar	1.4 km NE	37,987.8	Estuarine habitats including dune systems, intertidal mud and sand flats, saltmarshes and brackish lagoons. Grey seal Internationally important populations of passage wildfowl and waders.	N/A

Conservation Objectives

2.2.3 The conservation objectives for each relevant Natura 2000 site are summarised in Table 9B.2 below.

Table 9B.2: Conservation Objectives for Relevant Natura 2000 Sites

Site	Conservation Objectives
Humber Estuary SAC	Ensure that the integrity of the qualifying natural habitat is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; the extent and distribution of qualifying natural habitats and habitats of qualifying species; the structure and function (including typical species) of the qualifying natural habitats; the structure and function of the habitats of qualifying species; the supporting processes on which qualifying natural habitats and habitats of qualifying species rely; the populations of qualifying species, and the distribution of qualifying species within the site.
Humber Estuary SPA	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; the extent and distribution of the habitats of the qualifying features the structure and function of the qualifying features the supporting processes on which the habitats of the qualifying features rely the populations of each of the qualifying features, and the distribution of the qualifying features within the site
Humber Estuary Ramsar	Not specifically listed. Assumed as for Humber Estuary SAC and SPA.

3. Potential Impacts on Natura 2000 Sites

3.1. Identification of Potential Impacts

3.1.1 The potential source-receptor pathways by which the Proposed Development could impact the qualifying features of each Natura 2000 site, and which were scoped into the ecological impact assessment are as follows:

- Surface water quality – potential pathways for the surface water pollution to the adjacent drainage network, and ultimately to the Humber Estuary SAC/ SPA/ Ramsar into which the surface water drainage flows during the construction phase of the Proposed Development e.g. sedimentation, vehicle fuel spill;
- Air quality - potential pathways identified through emissions to air during the operational phase of Proposed Development resulting in nitrogen and acid deposition to susceptible habitats within the Humber Estuary SAC/ SPA/ Ramsar; and
- Noise and visual disturbance – to waterbirds feeding/ roosting/ loafing in arable fields to the east of the Proposed Development (between Rosper Road and the estuary) that are 'functionally linked' to the Humber Estuary SPA/ Ramsar.

3.1.2 No pathways by which noise and visual disturbance could give rise to likely significant effects on the important bird assemblage feeding on the intertidal mudflats of the Humber Estuary SPA/ Ramsar have been identified. The Proposed

Development is in excess of 1 km from the nearest intertidal mudflat areas used by feeding birds, and at this distance it is reasonable to conclude that there would be no disturbance to birds as a result of noise and visual impacts during construction and operation. These pathways are therefore scoped out.

3.1.3 No pathways by which underwater noise could give rise to likely significant effects on marine mammals and fish that are part of the Humber Estuary SPA/ SAC/ Ramsar/ SSSI have been identified, given that any works associated with the Proposed Development will be 1.4 km from the nearest part of the designated site. Over this distance it is reasonable to conclude that there would be no propagation of underwater noise such that the qualifying features could be affected. This pathway is therefore scoped out.

3.1.4 Given the distance between the Natura 2000 sites and the Proposed Development there is no pathway that could result in direct habitat loss or direct physical damage to any of the designated habitats. Similarly, there are no groundwater pathways over this distance through which the Proposed Development could give rise to any effects on the groundwater dependent terrestrial ecosystems (GWTEs) of the Natura 2000 sites. These pathways are therefore scoped out.

4. Summary of HRA Signposting

4.1.1 Table 9B.3 below presents the signposting to the relevant PEI Report Volume 1 chapters in which detailed assessment of the relevant potential source-receptor pathways identified above can be found. The main source-receptor pathway identified was in respect of operational emissions to air. Chapter 6: Air Quality has assessed a range of scenarios for acid and nitrogen deposition based on the 'Rochdale Envelope' approach, which takes into account the various options being considered for the type and final layout of the Proposed Power Plant.

4.1.2 For all potential source-receptor pathways identified, the ecological impact assessment reported in PEI Report Volume 1 concluded that the Proposed Development will not result in any significant effects on designated sites. When considered in HRA terms, the technical assessments undertaken are considered to present sufficient evidence for a conclusion of no likely significant effect on any Natura 2000 site.

Table 9B.3: HRA Signposting for Relevant Natura 2000 Sites

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Humber Estuary SAC					
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Embryonic shifting dunes Shifting dunes along the shoreline with European marram grass (*Ammophila arenaria*) (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes) Dunes with common sea buckthorn (*Hippophae• rhamnoides*)	Changes in air quality during operational phase	NOx deposition from Proposed Power Plant stack resulting in changes to critical levels and potential effects on vegetation assemblage.	Annual mean NOx change is imperceptible; c. 0.3% of critical level and is not significant. This does not exceed the 1% screening threshold beyond which the effects should be considered in more detail.	Chapter 6: Air Quality Paragraphs 6.7.16 – 6.7.22 Chapter 9: Ecology Paragraphs 9.7.29 – 9.7.36	No
		Nutrient nitrogen deposition from Proposed Power Plant stack resulting in changes to critical loads and potential effects on vegetation assemblage.	Change is assumed as imperceptible; <0.1% of critical load and is not significant. This does not exceed the 1% screening threshold beyond which the effects should be considered in more detail.	Chapter 6: Air Quality Paragraphs 6.7.16 – 6.7.22 Chapter 10: Ecology Paragraphs 9.7.29 – 9.7.36	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Estuaries Mudflats and sandflats not covered by seawater at low tide Sandbanks which are slightly covered by seawater all the time Coastal lagoons *Salicornia* and other annuals colonising mud and sand Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	Surface water pollution during construction phase	Pollution/ siltation of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution to the drain during construction phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.6.3, and 9.7.17 – 9.7.18 Chapter 11: Ground Conditions Paragraphs 11.6.4 – 11.6.10 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.5 and 12.6.8 – 12.6.9	No
	Surface water pollution during operational phase	Pollution of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution to the drain during operational phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.7.37 – 9.7.38 Chapter 11: Ground Conditions Paragraphs 11.6.13 – 11.6.14 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.23 – 12. 6. 29	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Humber Estuary SPA					
Populations of European importance of Annex I and Annex II over-wintering wildfowl and wading birds. Internationally important assemblage of migratory and wintering birds.	Surface water pollution during construction phase to habitats supporting internationally important bird populations	Pollution/ siltation of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during construction phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.6.3, and 9.7.17 – 9.7.18 Chapter 11: Ground Conditions Paragraphs 11.6.4 – 11.6.10 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.5 and 12.6.8 – 12.6.9	No
	Surface water pollution during operational phase to habitats supporting internationally important bird populations	Pollution of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during operational phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.7.37 – 9.7.38 Chapter 11: Ground Conditions Paragraphs 11.6.13 – 11.6.14 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.23 – 12. 6. 29	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Populations of European importance of Annex I and Annex II over-wintering wildfowl and wading birds. Internationally important assemblage of migratory	Noise and visual impacts during construction to fields east of Rosper Road	Disturbance/ displacement of birds from fields that are outside the SPA but are 'functionally linked' by providing high tide roosting, feeding and loafing habitat. This may result in reduced feeding times, increased energy expenditure and reduced survival rates.	Construction noise and visual impacts would be within the context of industrial activities already surrounding the fields on the east side of Rosper Road, to which it is reasonable to assume that waterbirds in the Estuary would be habituated. Predicted construction noise is within ambient levels. The nature and scale of the Proposed Development is similar to the surrounding areas.	Appendix 9B: Annex 9B.1 – Technical Note (noise assessment for Rosper Road fields) Chapter 9: Ecology Paragraphs 9.7.7 – 9.7.14 (noise impacts) and 9.7.15 – 9.7.16 (visual impacts)	No
	Noise and visual impacts during operation to fields east of Rosper Road	Disturbance/ displacement of birds from fields that are outside the SPA but are 'functionally linked' by providing high tide roosting, feeding and loafing habitat. This may result in reduced feeding times, increased energy expenditure and reduced survival rates.	Operational noise reaching the Rosper Road fields is predicted to be within the ambient level, and therefore no disturbance/ displacement is anticipated. Operational visual disturbance would be within the context of industrial activities already surrounding the fields on the east side of Rosper Road, to which it is reasonable to assume that waterbirds in the Estuary would be habituated. The nature and scale of the Proposed Development is similar to the surrounding areas.	Appendix 9B: Annex 9B.1 – Technical Note (noise assessment for Rosper Road fields) Chapter 9: Ecology Paragraphs 9.7.39 – 9.7.38 (noise impacts) and 9.7.45 (visual impacts)	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Humber Estuary Ramsar					
Estuarine habitats including dune systems, intertidal mud and sand flats, saltmarshes and brackish lagoons.	Surface water pollution during construction phase to habitats	Pollution/ siltation of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during construction phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.6.3, and 9.7.17 – 9.7.18 Chapter 11: Ground Conditions Paragraphs 11.6.4 – 11.6.10 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.5 and 12.6.8 – 12.6.9	No
	Surface water pollution during operational phase to habitats	Pollution of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during operational phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.7.37 – 9.7.38 Chapter 11: Ground Conditions Paragraphs 11.6.13 – 11.6.14 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.23 – 12. 6. 29	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Grey seal	Surface water pollution during construction phase to habitats supporting breeding grey seal	Pollution/ siltation of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during construction phase will adequately minimise risk. Nearest breeding grey seal colony is at Donna Nook, approximately 30 km south-east, and any pollution would have significantly diluted by the point at which it enters the estuary.	Chapter 9: Ecology Paragraphs 9.6.3, and 9.7.17 – 9.7.18 Chapter 11: Ground Conditions Paragraphs 11.6.4 – 11.6.10 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.5 and 12.6.8 – 12.6.9	No
	Surface water pollution during operational phase to habitats supporting breeding grey seal	Pollution of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during operational phase will adequately minimise risk. Nearest breeding grey seal colony is at Donna Nook, approximately 30 km south-east, and any pollution would have significantly diluted by the point at which it enters the estuary.	Chapter 9: Ecology Paragraphs 9.7.37 – 9.7.38 Chapter 11: Ground Conditions Paragraphs 11.6.13 – 11.6.14 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.23 – 12. 6. 29	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
Internationally important populations of passage wildfowl and waders.	Surface water pollution during construction phase to habitats supporting internationally important bird populations	Pollution/ siltation of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during construction phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.6.3, and 9.7.17 – 9.7.18 Chapter 11: Ground Conditions Paragraphs 11.6.4 – 11.6.10 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.5 and 12.6.8 – 12.6.9	No
	Surface water pollution during operational phase to habitats supporting internationally important bird populations	Pollution of Humber Estuary via adjacent surface water drain, into which surface water run-off from the Proposed Development will outfall.	Standard environmental measures to control pollution during operational phase will adequately minimise risk.	Chapter 9: Ecology Paragraphs 9.7.37 – 9.7.38 Chapter 11: Ground Conditions Paragraphs 11.6.13 – 11.6.14 Chapter 12: Surface Water, Flood Risk & Drainage Paragraphs 12.6.23 – 12. 6. 29	No

Qualifying Feature	Potential Impact	Potential Pathway for Effects	Summary of Evidence Presented in PEI Report	PEI Report Volume 1 Reference	Likely Significant Effect Predicted?
	Noise and visual impacts during construction to fields east of Rosper Road	Disturbance/ displacement of birds from fields that are outside the Ramsar but are 'functionally linked' by providing high tide roosting, feeding and loafing habitat. This may result in reduced feeding times, increased energy expenditure and reduced survival rates.	Construction noise and visual impacts would be within the context of industrial activities already surrounding the fields on the east side of Rosper Road, to which it is reasonable to assume that waterbirds in the Estuary would be habituated. Predicted construction noise is within ambient levels. The nature and scale of the Proposed Development is similar to the surrounding areas.	Appendix 9B: Annex 9B.1 – Technical Note (noise assessment for Rosper Road fields) Chapter 9: Ecology Paragraphs 9.7.7 – 9.7.14 (noise impacts) and 9.7.15 – 9.7.16 (visual impacts)	No
	Noise and visual impacts during operation to fields east of Rosper Road	Disturbance/ displacement of birds from fields that are outside the Ramsar but are 'functionally linked' by providing high tide roosting, feeding and loafing habitat. This may result in reduced feeding times, increased energy expenditure and reduced survival rates.	Operational noise reaching the Rosper Road fields is predicted to be within the ambient level, and therefore no disturbance/ displacement is anticipated. Operational visual disturbance would be within the context of industrial activities already surrounding the fields on the east side of Rosper Road, to which it is reasonable to assume that waterbirds in the Estuary would be habituated. The nature and scale of the Proposed Development is similar to the surrounding areas.	Chapter 9: Ecology Paragraphs 9.7.39 – 9.7.38 (noise impacts) and 9.7.45 (visual impacts) Appendix 9B: Annex 9B.1 – Technical Note (noise assessment for Rosper Road fields)	No

5. Mitigation

5.1.1 Measures will be implemented throughout the construction phase of the Proposed Development to ensure legislative compliance with regards to surface water run-off, and these measures will be detailed in the Construction Environmental Management Plan (CEMP). This includes a plan to deal with accidental pollution to be agreed with the Environment Agency. However, such measures are not considered to represent mitigation, as they are provided as a matter of course as 'best practice' for construction regardless of potential effects. Further details are provided in Chapter 12: Surface Water, Flood Risk and Drainage (Paragraphs 12.6.8 – 12.6.19). This embedded mitigation will ensure that there is no adverse effect on the adjacent drainage ditch, and thus a negligible risk of pollution affecting downstream habitats within the Humber Estuary SAC/ SPA/ Ramsar.

5.1.2 Similarly, the operational drainage infrastructure will be designed to attenuate flow and prevent the potential migration of contaminants into the drainage network. See Chapter 12: Surface Water, Flood Risk and Drainage for further details (Paragraphs 12.6.23 – 12.6.29)

6. In-Combination Effects with Other Plans or Projects

6.1. Introduction

6.1.1 Relevant projects considered as part of the cumulative effects assessment undertaken for the ecological impact assessment, along with potential cumulative effect topics of relevance to the HRA in-combination assessment are summarised in Table 9B.4 below, along with the relevant signposting to ES Volume 1 chapters.

6.1.2 The majority of the plans or projects identified in Chapter 16: Cumulative and Combined Effects of the ES Volume 1 have been screened out of potential cumulative likely significant ecological effects on the basis that there are no pathways by which the schemes could adversely affect ecological receptors within the zone of influence of the Proposed Development, either alone or in-combination. Only those schemes that could potentially affect the European site through changes in air quality (e.g. power plant and energy from waste schemes) or disturbance/ displacement to waterbirds feeding, roosting and loafing in fields outside the boundary of the European site that could be considered functionally linked to the SPA/ Ramsar.

6.2. Potential Cumulative Effects Pathways Scoped Out

6.2.1 No pathways by which the Proposed Development could give rise to noise or visual disturbance to waterbirds within the boundary of the European site, i.e. feeding at the nearest part of the designated area at North Killingholme mudflats, were identified. There is therefore no potential for cumulative noise or visual disturbance impacts with other plans or projects in the North Killingholme area. This topic is therefore not considered in the cumulative effects assessment.

6.2.2 Cumulative surface water quality pathways are also not considered, on the basis that Environmental Permitting regulations for the operation of the Proposed

Development require appropriate controls for surface water drainage such that the likelihood of a pollution event is minimal. Construction drainage will be managed through the adoption of industry best practice (as set out in a CEMP for the Proposed Development), and therefore it is also concluded that there is no potential for cumulative surface water quality impacts with any other plans or projects.

6.3. Potential Cumulative Air Quality Effects

6.3.1 The cumulative impact assessment for air quality (also presented in Chapter 16: Cumulative and Combined Effects) has confirmed that there will be no cumulative effects on any of the Natura 2000 sites as a result of NOx emissions, and acid and nitrogen deposition resulting from emissions to air. It can therefore be concluded that the Proposed Development will not result in likely significant effects on any Natura 2000 site, in-combination with other plans or projects. However, the projects scoped into the cumulative air quality assessment have been considered in the HRA screening process for completeness, with relevant signposting to the technical information contained within Chapter 6: Air Quality.

6.3.2 It should be noted that the in terms of the N-depositional impacts on the Humber Estuary receptor, the habitat type closest to the Proposed Development is saltmarsh, which is located approximately 1.5 km from the Proposed Development. It is considered that the APIS critical load of a minimum figure of 20.0 kgN/ha/yr is not based on very relevant research and is potentially excessively precautionary. The existing nitrogen deposition rate at the closest area of saltmarsh according to APIS is be 15.0 kgN/ha/yr, and the process contribution from the Proposed Development represents 0.3% of the lower end of the critical load at the worst case location. Given that the size of the other developments in the Site's vicinity are of a similar scale, and therefore are likely to have a similar level of impact at their worst case points, it is considered highly unlikely that the 'in combination' increase in nitrogen deposition would push the baseline above the minimum critical load. Also considering the locations of the other developments, and the prevailing wind direction, the worst case impacts for all the developments will occur at different locations and therefore the in combination impacts of the other developments would be lower at the point of worst case impact for the Proposed Development. Moreover, twice daily tidal inundation will bring much more nitrogen than would ever deposit from atmosphere, therefore the process of tidal inundation will have a much greater role influencing vegetation composition.

6.3.3 The most sensitive habitat designation for the Humber Estuary is sand dunes, however, there is no sand dune within 10 km of the Proposed Development and therefore this habitat is considered to be outside the zone of influence of the Proposed Development.

6.4. Potential Cumulative Disturbance/ Displacement Impacts

6.4.1 Potential cumulative disturbance to the fields to the east of the Proposed Development (between Rosper Road and the Estuary) has been scoped into the cumulative effects assessment. This is on the basis that there are several other projects either proposed, consented or under construction around this part of the Estuary (including the adjacent consented VPI Immingham Energy Park A power plant). Cumulative disturbance/ displacement therefore has the potential to result in

adverse effects on waterbirds in high tide feeding, roosting and loafing habitat in fields bordering the Estuary.

6.4.2 The AMEP development will result in the loss of large areas of farmland at North Killingholme adjacent to the North Killingholme mudflats, which support important assemblages of black-tailed godwits and other wintering/ passage bird species. This project has not yet been constructed; however a substantial package of mitigation was agreed with North Lincolnshire Council and Natural England to create alternative high tide feeding, roosting and loafing bird waterbird habitat at Killingholme Marshes (referred to as Mitigation Area A). This is at Rosper Road fields, to the east of the Proposed Development.

6.4.3 There is currently a separate planning application under consideration by North Lincolnshire Council to shift Mitigation Area A further north to East Halton Skitter (referred to as the 'Halton Marshes Wet Grassland Scheme (HMWGS)'), to accommodate the development of that area into car storage (Marsh Lane Car Storage Area). The delivery of mitigation at North Killingholme (or East Halton Skitter) is part of the South Humber Gateway (SHG) mitigation strategy, that has developed requirements for a package of 80 ha of wet grassland mitigation for waterbirds (four 20 ha blocks with 150m 'buffers') to facilitate development in the South Humber Gateway region that is HRA compliant.

6.4.4 There are therefore two scenarios; waterbird mitigation for the scheme(s) will either be delivered at the consented AMEP Mitigation Area A at Rosper Road fields, or at East Halton Skitter in the HMWGS (if the application is approved). If waterbird mitigation is to be delivered at Mitigation Area A (Rosper Road fields), there is the potential for cumulative impacts with the Proposed Development. However, the ecological impact assessment for the Proposed Development has concluded that Rosper Road fields will not be subject to construction or operational noise levels above ambient conditions. Given that the nature and scale of the Proposed Development is the same as other industrial areas surrounding Rosper Road fields e.g. Immingham VPI CHP, the ecological impact assessment concluded that there would be no disturbance/ displacement of waterbirds from the Rosper Road fields as a result of construction or operational noise and visual impacts. There is no potential for cumulative effects on waterbirds should the mitigation be delivered at Halton, because this is several kilometres north of the Proposed Development.

6.4.5 There is no potential for cumulative effects with the Marsh Lane Car Storage Area because should this scheme be consented, it would necessitate a relocation of Mitigation Area A to Halton. The Rosper Road fields would therefore be permanently lost as a high tide feeding, loafing and roosting resource to the scheme, and would be compensated through the delivery of mitigation at HMWGS.

6.4.6 It is therefore concluded that there will be no likely significant cumulative disturbance/ displacement effects with the Proposed Development, even if the waterbird mitigation for the AMEP scheme is delivered at Mitigation Area A.

6.4.7 Similarly, the Ecological Impact Assessment undertaken for the adjacent VPI Immingham Energy Park A development (consented) and the HRA, concluded that there would be no significant noise or visual disturbance to waterbirds using Rosper Road fields to the east. There will therefore be no likely significant cumulative

disturbance effects resulting from the construction or operation of the Proposed Development with the consented VPI Immingham Energy Park A development.

Table 9B.3: Summary of Projects Considered in Cumulative Effects Assessment in the PEI Report

Project or Plan	Type of Project/ Plan	Potential Cumulative Effects on Natura 2000 Sites	PEI Report Volume 1 Reference(s)	Likely Significant Effects In-combination with Proposed Development?
VPI Immingham Energy Park A (consented) PA/2018/918	49.9MW gas fired power station	**Potential Cumulative Air Quality Effects** The impacts of the Proposed Development have been assessed through dispersion modelling together with the impacts of the adjacent VPI Gas Engine project, in order to determine the overall impacts of both developments. The results of the assessment showed that the short term impacts at all receptors are dominated by the emissions from the gas engine sources, due to their lower stack heights, lower emission temperature and higher NOx emission concentration. No additional impact over that described in the ES submitted for the Gas Engine project is predicted for the Proposed Development.	Chapter 16: Cumulative and Combined Effects Paragraphs 17.6.1 – 17.6.16	No
		Potential Cumulative Disturbance/ Displacement Effects The Ecological Impact Assessment and HRA for the Scheme concluded that there would be no likely significant disturbance or displacement of waterbirds from adjacent Rosper Road fields; the nature and scale of the development is the same as that which surrounds it (e.g. TLOR, VPI Immingham CHP plant), and construction and operational noise levels reaching the fields were predicted to be within ambient levels.	N/A	No
Killingholme Power Station (consented) PA/2016/1240	14 gas reciprocating engine generators with electrical output of 23Mwe	**Potential Cumulative Air Quality Effects** The power station gas engines would be approximately 1.5 km north of the Proposed Development, and would be of a similar nature and scale to the Proposed Development. There is therefore the potential for cumulative air quality impacts resulting from acid and nitrogen deposition to the European site. The Air Quality impact assessment for Killingholme Power Station concluded that for all designated sites, the mean annual PC from NOx	Chapter 16: Cumulative and Combined Effects Paragraphs 17.6..11 – 17.6.12	No

Project or Plan	Type of Project/ Plan	Potential Cumulative Effects on Natura 2000 Sites	PEI Report Volume 1 Reference(s)	Likely Significant Effects In-combination with Proposed Development?
		deposition was well below the screening threshold of 1% of the critical level. Similarly, for nitrogen deposition the mean annual PC was well below the screening threshold of 1% of the critical load. The prevailing south-westerly wind direction means that peak emissions from both developments operating together would not impact upon the same parts of the European site. There is therefore no reasonable pathway by which cumulative impacts could occur.		
North Killingholme Power Project (consented)	Combined Cycle Gas Turbine (CCGT) power plant with 470MWe output	**Potential Cumulative Air Quality Effects** The CCGT would be approximately 2 km north of the Proposed Development. There is therefore the potential for cumulative air quality impacts resulting from acid and nitrogen deposition to the European site. As above, the prevailing wind and much higher stack than the Proposed Development means that any changes in NOx emissions, acid and nitrogen deposition would be imperceptible. There is therefore no reasonable pathway by which cumulative impacts could occur.	Chapter 16: Cumulative and Combined Effects Paragraph 17.6.13	No
Reserve Power Plant at Land South Side of Queens Road, Immingham (decision pending) DM/0100/18/FUL	12 gas reciprocating engine generators	**Potential Cumulative Air Quality Effects** This development is approximately 5 km from the Proposed Development, and the air quality impact assessment has concluded that cumulative effects would be minimal based on distance. It is therefore reasonable to conclude that there is no potential for likely significant cumulative effects on the Humber Estuary SPA/ SAC/ Ramsar as a result of changes in air quality.	Chapter 7: Air Quality Paragraph 17.6.14	No
Energy Recovery Facility at Land South of Queens Road, Immingham (decision pending) DM/0026/18/FUL	Energy recovery facility	**Potential Cumulative Air Quality Effects** This development is approximately 5 km from the Proposed Development, and the air quality impact assessment has concluded that cumulative effects would be minimal based on distance. It is therefore reasonable to conclude that there is no potential for likely significant cumulative effects on the Humber Estuary SPA/ SAC/ Ramsar as a	Chapter 7: Air Quality Paragraph 17.6.14	No

Project or Plan	Type of Project/ Plan	Potential Cumulative Effects on Natura 2000 Sites	PEI Report Volume 1 Reference(s)	Likely Significant Effects In-combination with Proposed Development?
		result of changes in air quality.		
Able Marine Energy Park (AMEP) Development Consent Order (consented)	New deepwater quay and terrestrial facilities	**Potential Cumulative Disturbance/ Displacement Effects** The AMEP development will result in the loss of large areas of farmland at North Killingholme adjacent to the North Killingholme mudflats, which support important assemblages of black-tailed godwits and other wintering/ passage bird species. The delivery of mitigation at North Killingholme (or East Halton Skitter) is part of the South Humber Gateway (SHG) mitigation strategy, that has developed requirements for a package of 80 ha of wet grassland mitigation for waterbirds (four 20 ha blocks with 150m 'buffers') to facilitate development in the South Humber Gateway region that is HRA compliant. For the AMEP DCO, a package of mitigation was agreed to be delivered at 'Mitigation Area A', which is at Rosper Road fields, to the east of the Proposed Development. However, the EcIA for the Proposed Development concluded that there would be no noise or visual impacts resulting in displacement/ disturbance of waterbirds from these fields, which are considered to be 'functionally linked' to the Humber Estuary. Therefore no likely significant cumulative effects were identified. There is no potential for cumulative effects on waterbirds in the AMEP DCO mitigation area, should this be delivered at East Halton Skitter, because this is several kilometres north of the Proposed Development.	Chapter 10: Ecology Paragraphs 9.7.39 – 9.7.45	No
Marsh Lane Car Storage Area for Able UK (pending decision) PA/2017/141	Car storage and distribution facility, port related storage	**Potential Cumulative Disturbance/ Displacement Effects** This development would result in the loss of fields currently proposed for the delivery of AMEP's Mitigation Area A i.e. which are mitigating for the loss of high tide feeding, roosting and loafing habitat within the AMEP footprint at North Killingholme. As part of the development, AMEP Mitigation Area A would be moved north to Halton Marshes (HMWGS) if the Scheme is consented.	Chapter 10: Ecology Paragraphs 9.7.39 – 9.7.45	No

Project or Plan	Type of Project/ Plan	Potential Cumulative Effects on Natura 2000 Sites	PEI Report Volume 1 Reference(s)	Likely Significant Effects In-combination with Proposed Development?
		There is therefore no potential for cumulative disturbance with the Proposed Development, and in any case the EcIA concluded that there would be no noise or visual disturbance of water birds from these fields.		
Land off Marsh Lane – Change of Use for Temporary Car Storage (pending decision) PA/2018/114	Application for change of use from that previously consented under AMEP DCO (and enabling works, which have been implemented) to temporary car storage, construction & operation of electricity substation and new junction off Rosper Road.	**Potential Cumulative Disturbance/ Displacement Effects** This development would result in the loss of fields between Rosper Road and the Estuary. However, all of the land is within the boundary of the consented AMEP DCO, and the application relates only to a change of use. Given that the loss of these fields to high tide feeding, roosting and loafing waterbirds has already been assessed (as part of the consented AMEP DCO), and mitigation agreed with Natural England and North Lincolnshire Council, there is no potential for cumulative effects with the Proposed Development.	N/A	No
Land east of Rosper Road – Change of Use for Temporary Car Storage PA/2017/27 (consented)	Application for change of use from that previously consented under AMEP DCO (and enabling works, which have been implemented) to temporary car storage.	**Potential Cumulative Disturbance/ Displacement Effects** This development would result in the loss of fields between Rosper Road and the Estuary. However, all of the land is within the boundary of the consented DCO, and the application relates only to a change of use. Given that the loss of these fields to high tide feeding, roosting and loafing waterbirds has already been assessed (as part of the consented AMEP DCO), and mitigation agreed with Natural England and North Lincolnshire Council, there is no potential for cumulative effects with the Proposed Development.	N/A	No
Fields north of Chase Hill Road, fields west of East Field Road and land east and west of Top Road, South Killingholme (consented)	Surface water storage lagoons (associated with the dewatering of cable trenches for the Hornsea Project One Offshore Windfarm Project)	**Potential Cumulative Disturbance/ Displacement Effects** This development will extend the DCO area for the Hornsea One Offshore Windfarm Project (currently under construction) to include small temporary water storage lagoons for dewatering purposes. All works will be located on the west side of LOR and therefore there is no potential for cumulative noise and visual impacts with the Proposed Development.	N/A	No

Project or Plan	Type of Project/ Plan	Potential Cumulative Effects on Natura 2000 Sites	PEI Report Volume 1 Reference(s)	Likely Significant Effects In-combination with Proposed Development?
PA/2018/155				
Land north of Chase Hill road (consented) PA/2017/1745 PA/2017/1927	Two applications for an minor extension to the Hornsea Project One Offshore Windfarm DCO area	**Potential Cumulative Disturbance/ Displacement Effects** Both extension areas are >1 km from the Proposed Development, and on the western side of the LOR. There is therefore no potential for cumulative noise and visual disturbance to waterbirds with the Proposed Development.	N/A	No
Demolition of North Killingholme A Power Station (consented) PA/2017/189	Power station demolition	**Potential Cumulative Disturbance/ Displacement Effects** HRA report concluded that there would be noise increases to the North Killingholme Haven Pits (NKHP) SSSI, which is an important high tide roost site for black-tailed godwits, and is within the SPA/ Ramsar boundary. However, given that no pathways for noise and visual disturbance to NKHP as a result of the Proposed Development have been identified, there is no potential for cumulative effects on qualifying bird species as a result of noise and visual impacts.	N/A	No

7. Conclusions

7.1.1 The Proposed Development has been screened for likely significant effects on the waterbird species and assemblage of the Humber Estuary SPA/ Ramsar. No likely significant effects have been identified, either alone or in-combination with other plans or projects.

7.1.2 Additional noise assessment has been undertaken and concluded that construction and operational noise will have attenuated to within ambient levels at the closest point of the Rosper Road fields to the Proposed Development.

7.1.3 The HRA screening exercise has taken into account embedded mitigation measures that have been designed in to the scheme to reduce the likelihood of water quality impacts on the drainage ditch to the south of the Proposed Development. This ditch is outside the boundary of the SPA/ Ramsar, and the embedded mitigation has not been included solely to mitigate for potential effects on the designated site, because the measures are required for construction and operational best practice. Therefore the consideration of embedded mitigation at the HRA screening stage is considered a robust approach in light of the *People over Wind* ruling.

7.1.4 The cumulative effects assessment has considered the implications of the delivery of mitigation for the AMEP DCO at Rosper Road fields (referred to as 'Mitigation Area A'), and found that there would be no likely significant cumulative disturbance/ displacement effects to waterbirds using the fields for feeding, roosting and loafing should the Proposed Development be consented.

7.1.5 Cumulative air quality impacts have also been assessed (including with the adjacent consented VPI Immingham Energy Park A scheme), and the assessment has concluded that there would be no likely significant cumulative effects on any of the sensitive features of the designated sites.

8. References

European Commission (2007) Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Published on the internet at: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance_art6_4_en.pdf

European Commission (2001) *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 of the Deputy Prime Minister (ODPM) (2005) *Government circular: Biodiversity and geological conservation – statutory obligations and their impact within the planning system*.

Annex 9B.1: Noise Assessment Technical Note – Rosper Road Fields

On 20th July 2018 AECOM undertook a qualitative soundscape assessment of the area of fields to the north east of the site. This area is understood to be of potential ecological significance particularly as a result of its use by migratory birds. The study area was bounded by Marsh Lane, Rosper Road, Station Road and the railway line as shown on the figure below.

The assessment involved measurements and observations of the existing sound climate in the area, with a view to assessing the potential changes that might result from the operation of the proposed development.

The soundscape within the study area has contributions from several sources

- Ships, both those moored on jetties serving the various dock operations along the river and those moving along the river itself. The sources of this sound included the ship's engines and the operations associated with loading and offloading of bulk materials and vehicles. The engine sound was typical of large diesel engines and at some locations included an audible low frequency tonal element. This sound was most significant along the north eastern edge of the study area closest to the river.
- Bulk handling noise from the site to the south east of the study area. This included transient noise from material movements and steady noise from conveyors. This sound was most significant at the eastern corner of the study area.

- Vehicle movements on Rosper Road. This is a very busy road with HGV and car movements principally serving the car import/export areas. This was the dominant source of ambient (average) sound (L_{Aeq}) in the western parts of the study area near Rosper Road
- Vehicle movements on the car import/export site. This sound was transient in nature and was present along the north western edge of the study area.
- Aircraft overhead
- The existing CHP plant equipment, including fan sound, stack sound etc. This was the dominant source of background (underlying) sound (LAF90) in the parts of the study area close to Rosper Road, but was not audible above the ship and bulk handling sound along the eastern edge.
- The refineries. This sound was audible at several locations across the study area.
- It was also noted that lighting to some parts of the car import/export areas appeared to be provided by diesel powered lighting towers. These were not operating during the survey (daytime) but it is likely that they will operate at night. The resulting sound would be expected to be audible at the northern corner of the study area

The measured sound levels across the study area ranged from 61 dB L_{Aeq} and 51 dB L_{AF90} along Rosper Road to 48 dB L_{Aeq} and 43/46 dB L_{AF90} along the eastern edge. These are daytime levels and the L_{Aeq} (ambient) values include contributions from some sources that are likely to be less significant at night. The L_{AF90} (background) values were dominated by steady sources which are likely to be present during the day and night.

The proposed development will add new sound sources to the area. The nature of this sound will be that of attenuated diesel engines. This will be very similar to several of the sources which form significant parts of the existing soundscape, including heavy goods vehicles on Rosper Road and ships on the river.

The predicted sound levels due to the proposed development range from 57 dB L_A at the closest point of the study area (on Rosper Road) to 36 dB L_A at the most distant (along the railway line). The predicted distribution of sound from the proposed development is shown on the figure below.

The predicted values are significantly lower than the existing ambient sound levels (L_{Aeq}) across the entire study area and below the existing background levels (L_{AF90}) in all but those areas closest to the proposed development. The changes in ambient and background levels resulting from the proposed development when it is in operation will therefore not be significant.

In conclusion, although the proposed development will introduce a new sound source, the nature and level of the sound produced by it will be very similar to that already being experienced by any wildlife currently living in or passing through the study area. The impact is therefore expected to be insignificant.