

Immingham Green Energy Terminal

Environmental Impact Assessment

Preliminary Environmental Information Report

Volume II – Main Report

Chapter 25: Cumulative Effects and In-Combination
Assessment

Associated British Ports



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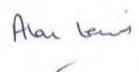
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Table of contents

Chapter	Pages
25 Cumulative Effects and In-Combination Assessment	25-1
25.1 Introduction	25-1
25.2 Legislation, Planning Policy and Guidance	25-1
25.3 Consultation	25-3
25.4 Assessment Methodology	25-4
25.5 In-Combination Effects	25-7
25.6 Cumulative Effects Assessment (Stages 1 and 2).....	25-12
25.7 Cumulative Effects Information Gathering and Assessment (Stages 3 and 4) ...	25-42
25.8 Limitations	25-42
25.9 References	25-43

Tables

Table 25.1 Summary of Consultation.....	25-3
Table 25.2 Development Tier in Accordance with Advice Note Seventeen	25-5
Table 25.3 Shared Receptor List and Associated Project Impacts	25-8
Table 25.4 Stage 2 Screening for Detailed CEA (Shortlist).....	25-14
Table 25.5 IERRT and IGET Cumulative Effects Scoping	25-35

Plates

Plate 25-1 Staged Approach to the Cumulative Assessment.....	25-5
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25 Cumulative Effects and In-Combination Assessment

25.1 Introduction

25.1.1 This chapter of the Preliminary Environmental Information (PEI) Report presents a preliminary assessment of the potential for cumulative and in-combination effects as a result of the Project.

25.1.2 The cumulative effects assessment (CEA) considers the following types of effect:

- a. **In-combination (combined) effects:** these effects occur where a single receptor is affected by more than one source of effect from different aspects of the Project. An example of an in-combination effect could be where a local resident is affected by dust, noise and traffic disruption during the construction of the Project, with the result being a greater nuisance than each individual effect alone.
- b. **Cumulative effects:** these effects occur as a result of a number of developments, which individually might not be significant, but when considered together with the Project could create a significant cumulative effect on a shared receptor.

25.1.3 The Environmental Statement (ES) that will accompany the application for development consent will include an assessment of potential cumulative and in-combination effects taking into account applicable legislation and guidance as detailed in **Section 25.2** using the methodology as detailed in **Section 25.4**.

25.1.4 This chapter provides a preliminary assessment of the potential for in-combination effects due to the Project. This chapter also provides details of other proposed developments within the vicinity of the Project that may be of relevance to the CEA, using information that is in the public domain. This includes information on Nationally Significant Infrastructure Projects (NSIPs), North East Lincolnshire Council (NELC) Local Plan allocations, proposed schemes that have planning applications registered with the local planning authorities and/or already consented developments that have not yet been constructed or are operational.

25.1.5 The CEA does not consider developments that are already constructed and operating, as such existing operational facilities are accounted for in the baseline conditions established for the assessments as reported within **Chapters 6 to 24** of this PEI Report.

25.1.6 This chapter is supported by **Figure 25.1** (PEI Report, Volume III) which illustrates the Project location in relation to other developments currently scoped into the CEA.

25.2 Legislation, Planning Policy and Guidance

25.2.1 Due to the potential for cumulative and in-combination effects to occur as a result of the construction, operation and maintenance and eventual decommissioning of the Project, a cumulative assessment will be undertaken and reported in the ES in accordance with the Infrastructure Planning (Environmental Impact

Assessment) Regulations 2017 (EIA Regulations) (Ref 25-1) and the assessment requirements of the National Policy Statement for Ports (NPSfP) (Ref 25-2).

25.2.2 The requirement for cumulative and in-combination impact assessments is stated in relevant legislation as detailed below.

25.2.3 Schedule 4 paragraph 5 of the EIA Regulations (Ref 25-1) requires:

25.2.4 'A description of the likely significant effects of the development on the environment resulting from, inter alia [...] (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'. The EIA Regulations state that this description of likely significant effects '*should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development*'.

25.2.5 Consideration is also given to relevant National Policy Statements (NPS) and Marine Policy Statements (MPS) with regard to the need for cumulative assessment.

25.2.6 Paragraph 4.7.1 of the NPSfP (Ref 25-2) states that:

'The Directive requires a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative effects of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects. When considering a proposal, the decision maker should ensure that likely significant effects at all stages of the project have been adequately assessed and should request further information where necessary.'

25.2.7 Paragraph 4.7.3 of the NPSfP (Ref 25-2) goes on to state that when considering cumulative effects:

25.2.8 '*The ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence). The decision-maker may also have other evidence before it, for example from appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the decision-maker in reaching decisions on proposals and on mitigation measures that may be required.'*

25.2.9 Paragraph 2.4.3 of the MPS (Ref 25-5) states that:

'The marine plan authority will need to consider the potential cumulative impact of activities and, using best available techniques, whether for example:

- a. The cumulative impact of activities, either by themselves over time or in conjunction with others, outweigh the benefits;*
- b. A series of low impact activities would have a significant cumulative impact which outweighs the benefit;*

c. An activity may preclude the use of the same area/resource for another potentially beneficial activity.'

25.2.10 Policy ECO1 of the East Inshore and East Offshore Marine Plan (Ref 25-6) states:

'Cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation.'

25.3 Consultation

25.3.1 A summary of relevant consultation of relevance to the CEA undertaken to date is provided in **Table 25.1**.

Table 25.1 Summary of Consultation

Consultee	Method of Consultation	Summary	Addressed in PEI Report
Planning Inspectorate	Scoping Opinion (Appendix 1.B of PEI Report Volume IV)	The Scoping Report (Appendix 1.A of PEI Report Volume IV) states that the significance of intra-project effects would be determined using professional judgement, and no further details are provided on the methodology. The ES should explain how potential interactions are identified and provide justification for the conclusions reached.	Section 25.4 and Section 25.5 explains the methodology and approach to the in-combination effects assessment.
		The Scoping Report does not suggest any other developments for inclusion on the longlist. The Applicant is advised to agree the list of developments with NELC, where possible. The ES should include a summary table, with relevant developments' current stage, location and timing of the proposed works to help to identify potential overlaps between activities that could lead to cumulative impacts.	The Applicant is currently engaging with NELC on the long list for the Project. The CEA included in the ES will include any developments NELC suggest should be considered. The Applicant has provided NELC with a long list for the CEA and we are awaiting a response.
		The ES should include a figure depicting the locations and extent of cumulative developments in relation to the Proposed Development.	Figure 25.1 (PEI Report, Volume III) supports this chapter and shows the location of the shortlisted developments for the CEA in relation to the Site.

Consultee	Method of Consultation	Summary	Addressed in PEI Report
North East Lincolnshire Council (NELC)	Email	In accordance with the Planning Inspectorate's Scoping Opinion, it was advised the Applicant should agree the list of developments to be included on the long list with the NELC.	The Applicant has provided NELC with a long list for the CEA and a response is awaited.

25.4 Assessment Methodology

25.4.1 There is no standard method for assessing cumulative and in-combination effects. A conjunction of professional judgement and established guidance has been used to define an appropriate scope for the CEA. The Inspectorate's Advice Note Seventeen (Ref 25-4) has been used to inform the scope of the CEA and to assist with the identification of relevant developments.

Assessment of In-combination Effects

25.4.2 The assessment of in-combination effects has considered whether a single environmental receptor or resource would likely be affected by more than one source of effect from different aspects of the Project. The assessment methodology involves the identification of impact interactions associated with the Project upon separate environmental receptors and resources, in order to understand the overall environmental effect of the Project.

25.4.3 Potential interactions have been identified by reviewing the conclusions within the technical chapters in this PEI Report (**Chapters 6 – 24**) in order to establish where individual impacts may combine and result in likely significant in-combination effects.

25.4.4 The significance of in-combination effects upon the environmental receptors and resources will be determined in the ES using professional judgement, with input provided from those responsible for the production of the individual topic assessments (**Chapters 6 – 24**). At this preliminary assessment stage, given that the full assessments have not yet been completed, this chapter aims to indicate whether there is the potential for in-combination effects, but does not assign levels of significance. The significance of potential in-combination effects will be reported in full within the ES.

Assessment of Cumulative Effects

25.4.5 In accordance with the approach contained within the Inspectorate's Advice Note Seventeen (Ref 25-4), the approach to the CEA follows a staged approach, as summarised in **Plate 25-1**.

25.4.6 For the purposes of the PEI Report, Stages 1 and 2 have been completed and are reported in **Section 25.6**. Stages 3 and 4 will be completed and reported within the ES. During ES preparation the occurrence of new developments in the vicinity of the Project of relevance to the CEA will be reviewed.

Plate 25-1 Staged Approach to the Cumulative Assessment



Stage 1: Establishing the long list of ‘other existing development and/or approved development’

- 25.4.7 Stage 1 has involved establishing the Project’s Zone of Influence (Zol) associated with the topic areas assessed within which a long list of other planned developments and development allocations.
- 25.4.8 Developments have been included on the current long list based on the criteria presented in **Table 25.2** and assigned a subsequent tier in accordance with the Inspectorate’s Advice Note Seventeen (Ref 25-4). **Table 25.2** provides criteria used to indicate the certainty that can be applied to each development from Tier 1 (most certain) to Tier 3 (least certain).

Table 25.2 Development Tier in Accordance with Advice Note Seventeen

Tier	Degree of Certainty
Tier 1	<ul style="list-style-type: none"> • Development currently under construction. • Approved applications which have not yet been implemented (covering the past five years and taking account of those that received planning consent over three years ago and are still valid but have not yet been completed). • Submitted applications not yet determined. • Refused applications, subject to appeal procedures not yet determined.
Tier 2	<ul style="list-style-type: none"> • Developments on the National Infrastructure Planning Programme of Projects (if a Scoping Report has been submitted).

Tier	Degree of Certainty
Tier 3	<ul style="list-style-type: none"> • Developments on the National Infrastructure Planning Programme of Projects (if a Scoping Report has not been submitted). • Development identified in the relevant Development Plan (and emerging Development Plans). • Development identified in other plans and programmes which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

25.4.9 For planning applications that have submitted a variation application both the original application and the variation have been considered.

25.4.10 Consultation with NELC has also commenced to establish the current long list.

Stage 2: Establishing a shortlist of 'other existing development and/or approved development'

25.4.11 At Stage 2, any development of a nature or scale without the potential to result in cumulative impacts has been excluded with due consideration given to the likely Zol for each environmental topic.

25.4.12 The criteria used to determine whether to include or exclude other existing development and/or approved development from the shortlist, based on the guidance provided in the Planning Inspectorate's Advice Note Seventeen (Ref 25-4), is detailed below:

- **Temporal scope:** Considering the relative construction, operation or decommissioning programmes of the 'other existing development and/or approved development' identified as part of Stage 1 and establishing whether there is an overlap or any potential for interaction with the Project.
- **Scale and nature of development:** Considering whether the scale and nature of the 'other existing development and/ or approved development' identified at Stage 1 are likely to interact with the Project.
- **Source-pathway-receptor linkages:** Considering any other factors such as the nature and/or capacity of the receiving environment that would make a significant cumulative effect as a result of the Project and developments identified in Stage 1 more or less likely utilising a source-pathway-receptor approach.

Stage 3: Information Gathering

25.4.13 Stage 3 involves reviewing the available information relating to shortlisted developments in order to establish the details of their likely environmental effects.

25.4.14 Information relating to the shortlisted developments will be collected from the appropriate sources which may include the local planning authority websites, the Inspectorate's website or directly from the applicant/developers, and will include, but not be limited to:

- a. Proposed design and location information.

- b. Proposed programme of demolition, construction, operation and/or decommissioning.
- c. Environmental assessments that set out baseline data and effects arising from 'other development'.

Stage 4: Assessment

- 25.4.15 Those developments which are shortlisted in Stage 2 and have available information gathered at Stage 3 will be incorporated into the final CEA to be reported in the ES. This will involve identifying where cumulative effects are likely to occur and assessing the significance of those effects on environmental receptors and resources, taking into account any defined mitigation measures.
- 25.4.16 The criteria for determining the significance of any potential cumulative effect will be based upon:
- a. The duration of effect i.e. would be temporary or permanent.
 - b. The extent of effect i.e. the geographical area of an effect.
 - c. The type of effect i.e. whether additive or synergistic.
 - d. The frequency of the effect.
 - e. The 'value' and resilience of the receptor affected.
 - f. The likely success of mitigation on the Project and the developments included within the CEA.
- 25.4.17 The assessment will be documented in a matrix in accordance with Matrix 2 in Appendix 2 of the Inspectorate's Advice Note Seventeen (Ref 25-4).

25.5 In-Combination Effects

- 25.5.1 An assessment of the potential for in-combination effects has been undertaken as part of this preliminary assessment which considers each environmental topic presented within this PEI Report (**Chapters 6 – 24**) and potential impacts upon a 'Shared Receptor List'.
- 25.5.2 A summary of the potential shared receptors that may be affected by the Project is presented in **Table 25.3**. Receptors that could be impacted by the Project as detailed in the technical chapters presented within this PEI Report are indicated in the table by an 'X'. Information presented in **Table 25.3** has been compiled with input from those responsible for the production of the individual topic assessments. The table illustrates how individual receptor types could be impacted by the potential effects outlined within the technical chapters of the PEI Report. For example, residential receptors could potentially be impacted by air quality, noise and vibration, traffic and transport, landscape and visual, major accident and disaster, socio-economics and human health and wellbeing effects. Any combination of these effects could potentially lead to an in-combination effect.

Table 25.3 Shared Receptor List and Associated Project Impacts

Receptor	Technical Chapters																			
	Air Quality	Noise and Vibration	Terrestrial Ecology	Marine Ecology	Ornithology	Traffic and Transport	Marine Transport and Navigation	Landscape and Visual Impact	Historic Environment (Terrestrial)	Historic Environment (Marine)	Physical Processes	Marine Water and Sediment Quality	Water Quality, Coastal Protection, Flood Risk and Drainage	Climate Change	Materials and Waste	Ground Conditions and Land Quality	Major Accidents and Disasters	Socio-Economics	Human Health and Wellbeing	
Residential Receptors	X	X				X		X										X	X	X
Human Health	X	X				X		X								X		X		X
Communities and local population	X	X				X	X	X										X	X	X
Public Rights of Way/Cycle Routes/Roads and Railways	X	X				X		X										X	X	
Historic Buildings/Features and Archaeological Sites									X	X								X		

Receptor	Technical Chapters																		
	Air Quality	Noise and Vibration	Terrestrial Ecology	Marine Ecology	Ornithology	Traffic and Transport	Marine Transport and Navigation	Landscape and Visual Impact	Historic Environment (Terrestrial)	Historic Environment (Marine)	Physical Processes	Marine Water and Sediment Quality	Water Quality, Coastal Protection, Flood Risk and Drainage	Climate Change	Materials and Waste	Ground Conditions and Land Quality	Major Accidents and Disasters	Socio-Economics	Human Health and Wellbeing
Watercourses											X	X	X				X		
Water and Sediment Quality												X	X				X		
Benthic Habitats and Species				X								X					X		
Fish				X													X		
Marine Mammals				X													X		
Coastal Waterbirds	X				X												X		
Breeding Birds	X				X												X		
Bats, Otters, Voles			X														X		
Woodland and Designated Sites	X		X	X	X			X									X		

Receptor	Technical Chapters																		
	Air Quality	Noise and Vibration	Terrestrial Ecology	Marine Ecology	Ornithology	Traffic and Transport	Marine Transport and Navigation	Landscape and Visual Impact	Historic Environment (Terrestrial)	Historic Environment (Marine)	Physical Processes	Marine Water and Sediment Quality	Water Quality, Coastal Protection, Flood Risk and Drainage	Climate Change	Materials and Waste	Ground Conditions and Land Quality	Major Accidents and Disasters	Socio-Economics	Human Health and Wellbeing
Flood Defences and Flood Risk Receptors													X						
Geology																X			
Hydrogeology																X			
Soils/Groundwater																X			
Existing Development	X	X				X	X	X								X	X	X	
Existing Business	X	X				X	X	X								X	X	X	X
Proposed Development												X	X	X		X	X		
Power/Gas Supplies																	X		

Receptor	Technical Chapters																		
	Air Quality	Noise and Vibration	Terrestrial Ecology	Marine Ecology	Ornithology	Traffic and Transport	Marine Transport and Navigation	Landscape and Visual Impact	Historic Environment (Terrestrial)	Historic Environment (Marine)	Physical Processes	Marine Water and Sediment Quality	Water Quality, Coastal Protection, Flood Risk and Drainage	Climate Change	Materials and Waste	Ground Conditions and Land Quality	Major Accidents and Disasters	Socio-Economics	Human Health and Wellbeing
Global Climate														X					
Landfill, Safeguarded/ Allocated Mineral and Waste Sites															X				

25.5.3 **Table 25.3** indicates that some receptors are shared across technical disciplines. For example, residential receptors in the vicinity of the Project have the potential to be impacted by air quality, noise and vibration, traffic and transport, visual, major accidents and disasters (MA&D), socio-economics and health and wellbeing effects, as associated with the Project. This illustrates that for some shared receptors, there is the potential for in-combination effects that need to be investigated further as part of the ES.

25.5.4 The potential for in-combination effects upon shared receptors will be reported in the ES across all stages of the Project. An overall assessment of each potential in-combination effect will be presented, with each being defined as either significant or not significant.

25.6 Cumulative Effects Assessment (Stages 1 and 2)

25.6.1 Cumulative effects are generally unlikely to arise unless other development sites are in close proximity to the Project. However, the nature of potential effect and the actual distance at which two developments cumulatively impact a receptor depends on the nature of the impact (e.g. cumulative air quality effects could occur for the Project at a greater distance than say noise and vibration effects).

25.6.2 The study area for the consideration of cumulative effects has been developed by taking into account the predicted Zol for each technical discipline as reported in this PEI Report (**Chapters 6 to 24**).

25.6.3 The largest Zol within the PEI Report technical assessments is 10km for the assessment of air quality effects on nature conservation receptors. As a result, the maximum Zol used for the cumulative assessment is 15km as a precautionary approach at this PEI stage. The areas of search within this maximum Zol were then varied depending upon the type and scale of development as follows:

- a. 15km – Nationally Significant Infrastructure Projects (NSIPs) (based on potential air quality and visual effects in accordance with standard guidance).
- b. 5km – Major developments (as defined in section 2 of The Town and Country Planning (Development Management Procedure) (England) Order 2015) (Ref 25-7).
- c. 5km – Marine licence activities/development.
- d. 5km – Local plan allocations (adopted and emerging).
- e. 1km – Non-major development (other development which does not meet the criteria for major development (excludes very small scale development such as domestic extensions or garages, for which cumulative effects are unlikely to arise when considered alongside another development)).

25.6.4 An initial screening exercise was undertaken (Stage 1) to identify the various tiered developments within the study area as detailed above to create an initial long list for consideration based on Appendix 1 Matrix 1 of the Inspectorate's Advice Note Seventeen (Ref 25-4). This initial long list has subsequently been screened based on the potential for interactions with the Project across all the technical disciplines considered within this PEI Report (**Chapters 6 - 24**). The

result of this screening exercise, and those developments that have been progressed to Stage 2, as well as the justification for shortlisting developments from the long list, is provided in **Table 25.4** Table 25.4.

- 25.6.5 This shortlist of developments will subsequently be taken through Stages 3 and 4 of the CEA process as detailed in **Section 25.4** and reported in the ES in accordance with Appendix 2 Matrix 2 of the Planning Inspectorate's Advice Note Seventeen (Ref 25-4).

Table 25.4 Stage 2 Screening for Detailed CEA (Shortlist)

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
1	DM/1145/19/FUL (includes variation of conditions application DM/0603/22/FUL) Construction and operation of an energy park comprising photovoltaic (PV) solar panels together with battery storage	Major	517m south of the Site	Yes – Construction period has the potential to overlap with the Project	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
3	DM/0105/18/FUL (includes variation of conditions application DM/0545/20/NMA) Hybrid application seeking outline consent with access, landscaping and scale to be considered for the development of a 62ha Business Park comprising up to 120,176 m ²	Major	938m south of the Site	Yes – Construction periods have the potential to overlap if both Projects proceed	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
5	DM/0968/19/FUL Variation of conditions 1 (Approved Plans) and 2 (Scheme of Landscaping) as granted in permission DC/101/98/IMM	Major	Immediately south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
6	DM/0120/21/FUL Erect 80MW battery energy storage site with associated external works	Minor	653m south of the Site	Yes – Construction periods have the potential to overlap if both Projects proceed	No – Due to the scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
7	DM/01111/19/SCR Screening request for the siting of 10 x 2MW flexible gas generation plant (total of 20MW)	Major	507m south of the Site	Potentially	Unknown – The Screening Opinion has stated this is EIA development however a full application has not been progressed at this stage and limited information exists on the proposed development The timing of the delivery for this development means that the applicant will, in due course, need to consider the cumulative effects with the Project, but the reverse is not required	No
8	DM/0762/21/FUL Erect 80 MW battery energy facility and associated external works	Major	507m south of the Site	Yes – Potential for construction periods to overlap	No – Due to the scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
9	DM/0865/19/FUL Erection of 20MW gas fuelled embedded energy generation compound – Site 4	Major	507m south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
10	DM/0864/19/FUL Erection of 20MW gas fuelled embedded energy generation compound - Site 3	Major	507m south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
11	DM/1016/17/FUL Erection of a Small-Scale Electricity Battery Storage Plant	Major	507m south of the Site	Yes – Potential for construction periods to overlap	No – Due to the scale and nature of the proposed development	No
12	DM/1111/19/FUL Erect new electrical substation, control room and electrical gear, erection of 2.44m high steel fence	Minor	507m south of the Site	Yes – Potential for construction periods to overlap	No – Due to the scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
13	DM/0628/18/FUL (includes variation of conditions DM/0274/20/FUL) Partially demolish existing building and erect 20MWE waste to energy power generation facility, 65m stack and associated plant, machinery	Minor	507m south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
14	DM/0110/19/SCR Screening request for the siting of 10 x 2MW flexible gas generation plant (total of 20MW)	Minor	507m south of the Site	Unknown - The proposed development application has not been progressed at this stage	Unknown – The Screening Opinion has stated this is EIA development however a full application has not been progressed at this stage and limited information exists on the proposed development	No – this scheme will need to consider cumulative effects with this Project
15	DM/1056/20/FUL Erection of 2no 24m (above ground level) Biomass Flues	Minor	507m south of the Site	Yes – Potential for construction periods to overlap	No – Due to the scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
16	DM/0862/19/FUL Erection of 20MW gas fuelled embedded energy generation compound - Site 1	Major	417m south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
17	DM/0863/19/FUL Erection of 20MW gas fuelled embedded energy generation compound - Site 2	Major	417m south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
18	DM/0026/18/FUL Erect an Energy Recovery Facility with an electricity export capacity of up to 49.5MW and associated infrastructure including a stack to 90m high	Major	91m south of the Site	Yes – Potential for construction periods to overlap	Yes - Potential for significant environmental effects that merit consideration within the CEA	Yes
20	DM/0970/19/FUL Demolish existing 15m mast and erect 30.1m steel lattice mast to include installation of two satellite dishes	Major	51m north of the Site	Yes – Potential for construction periods to overlap	No – Due to the scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
21	EN010107 South Humber Bank Energy Centre	NSIP	2.19km south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
22	TR030007 Immingham Eastern Ro-Ro Terminal (IERRT)	NSIP	910m north of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes
25	TR030001, TR030005 and TR030006 Able Marine Energy Park including Material Changes 1 and 2	NSIP	4.10km north of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
26	EN010097 VPI Immingham B OCGT	NSIP	3.73km north West of the Site	No – Construction commencing in 2023 and due to complete mid 2024	Yes - Potential for significant environmental effects that merit consideration within the CEA	Yes
27	EN010038 North Killingholme Power Project	NSIP	6.38km north West of the Site	Yes – Potential for construction periods to overlap	Yes - Potential for significant environmental effects that merit consideration within the CEA	Yes
28	EN070006 Humber Low Carbon Pipelines	NSIP	6.41km north West of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration within the CEA	Yes

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
29	EN070008 Viking CCS Pipeline	NSIP	2km south of the Site	Yes – Potential for construction periods to overlap	Yes - Potential for significant environmental effects that merit consideration within the CEA	Yes
30	DM/0899/21/FUL Install solar farm with associated works and infrastructure	Major	4.94km south of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project	No
31	DM/0950/15/OUT (includes reserved matters DM/0211/20/REM) Outline application for a residential development of up to 118 dwellings	Major	4.68km west of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project and scale and nature of the proposed development	No
32	DM/0622/20/MDO (this is a modification of planning application for DM/0950/15/OUT (ID 31 above)) Application to modify the planning obligation under Section 106 as granted on DM/0950/15/OUT	Major	4.68km west of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project and scale and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
33	PA/2022/1223 Hybrid application comprising full planning permission for the construction of a hardstanding area for external level storage, with landscaping, drainage, access	Major	2.7.0km north West of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project and scale and nature of the proposed development	No
34	DM/0304/17/FUL Alterations to include new vehicular accesses, fencing and installation of lighting for the storage and distribution of vehicles associated with import/export activities at the Port of Grimsby.	Major	5.16km south of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project and scale and nature of the proposed development	No
35	DM/0329/18/FUL Erection of industrial building and adjoined two storey office/control room to create power plant (18MW Energy From Waste)	Major	4.91km south of the Site	Yes – Potential for construction periods to overlap	Yes - Potential for significant environmental effects that merit consideration within the CEA	Yes
36	DM/0625/19/FUL Erection of industrial manufacturing building, installation of attenuation tank, erection of 2.4m high palisade fence/gates	Major	4.91km south of the Site	Yes – Potential for construction periods to overlap	No – Due to proximity from the Project and nature of the proposed development	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
37	DM/1070/18/FUL Construction of an energy from waste facility of up to 49.9MWe gross capacity including emissions stack(s) and associated infrastructure	Major	2.95km south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effects that merit consideration	Yes
39	DM/0848/14/FUL Development of a renewable power facility for the production of electricity using pre-treated fuel feedstocks	Major	619m south of the Site	No – Permitted in 2016	Yes – Potential for significant environmental effects that merit consideration	No
40	DM/0378/15/OUT (includes reserved matters DM/0198/20/REM and DM/1080/18/REM) Outline planning application with means of access to be considered for the construction of up to 250 residential dwellings	Major	3.49km south of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effect that merit consideration	Yes
41	DM/0728/18/OUT Outline planning application for the development of up to 525 residential dwellings together with an extra care facility	Major	1.71km west of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effect that merit consideration	Yes

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
42	DM/1175/17/FUL Residential development for 145 dwellings	Major	2.59km west of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effect that merit consideration	Yes
57	HUMBER 3A Licensed disposal area	Marine Licence Application	2.08km north West of the Site marine boundary	n/a	No – Licensed disposal area not expected to interact with the Project during construction or operation	No
58	Holme Channel Deep Licensed disposal area	Marine Licence Application	2.39km north West of the Site marine boundary	n/a	No - Licensed disposal area not expected to interact with the Project during construction or operation	No
59	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR001 (Employment – Proposed Allocation)	Local Plan Allocation	Within the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
60	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR025a (Employment – Retained for long term business use)	Local Plan Allocation	Within the Site	No	Unlikely as no applications currently proposed within area	No
61	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR027 (Employment – Proposed Allocation)	Local Plan Allocation	Adjoining the Site	Yes	Yes - a planning application (DM/0026/18/FUL) has been submitted for this land. See ID 18 within this table.	No – covered by ID 18
62	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR003 (Employment – Proposed Allocation)	Local Plan Allocation	1.8km from the Site	No	Unlikely as no applications currently proposed within area	No
64	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR007 (Employment – Proposed Allocation)	Local Plan Allocation	951m from the Site	No	Unlikely as no applications currently proposed within area	No
65	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR008a-e (Employment – Proposed Allocation)	Local Plan Allocation	4.37km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
66	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR011 (Employment – Proposed Allocation)	Local Plan Allocation	3.46km from the Site	No	Unlikely as no applications currently proposed within area	No
67	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR015a-b (Employment – Proposed Allocation)	Local Plan Allocation	15a - 3.22km from the Site 15b - 3.8km from the Site	No	Unlikely as no applications currently proposed within area	No
68	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR016a-b (Employment – Proposed Allocation)	Local Plan Allocation	16a - 1.31km from the Site 16b - 0.81km from the Site	Yes	Yes - a planning application (DM/0105/18/FUL) has been submitted for this land. See ID 3 within this table.	No - covered by ID 3
69	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR019 (Employment – Proposed Allocation)	Local Plan Allocation	2.30km from the Site	No	Unlikely as no applications currently proposed within area	No
70	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR020 (Employment – Proposed Allocation)	Local Plan Allocation	2.52km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
71	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR021 (Employment - Retained for long term business use)	Local Plan Allocation	4.22km from the Site	No	Unlikely as no applications currently proposed within area	No
72	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR022 (Employment – Proposed Allocation)	Local Plan Allocation	712m from the Site	Yes	Yes - a planning application (DM/0848/14/FUL) has been submitted for this land. See ID 39 within this table.	No – covered by ID 39
74	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR025b (Employment - Retained for long term business use)	Local Plan Allocation	426m from the Site	No	Unlikely as no applications currently proposed within area	No
75	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR025c (Employment - Retained for long term business use)	Local Plan Allocation	1.27km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
76	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR025d (Employment - Retained for long term business use)	Local Plan Allocation	1.83km from the Site	No	Unlikely as no applications currently proposed within area	No
77	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR025e (Employment - Retained for long term business use)	Local Plan Allocation	897m from the Site	No	Unlikely as no applications currently proposed within area	No
78	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR037 (Employment – Proposed Allocation)	Local Plan Allocation	427m from the Site	No	Unlikely as no applications currently proposed within area	No
79	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR039a (Employment - Retained for long term business use)	Local Plan Allocation	1.12km from the Site	No	Unlikely as no applications currently proposed within area	No
80	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) ELR039b (Employment - Retained for long term business use)	Local Plan Allocation	1.68km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
81	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU001 (Housing – Proposed Allocation)	Local Plan Allocation	633m from the Site	No	Unlikely as no applications currently proposed within area	No
82	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU002 (Housing – Proposed Allocation)	Local Plan Allocation	2.55km from the Site	Yes	Yes - a planning application (DM/1175/17/FUL) has been submitted for this land. See ID 42 within this table.	No – covered by ID 42
83	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU004 (Housing – Proposed Allocation)	Local Plan Allocation	2.50km from the Site	No	Unlikely as no applications currently proposed within area	No
84	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU006 (Housing – Proposed Allocation)	Local Plan Allocation	1.67km from the Site	Yes	Yes - a planning application (DM/0728/18/OUT) has been submitted for this land. See ID 41 within this table.	No – covered by ID 41
85	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU233 (Housing – Proposed Allocation)	Local Plan Allocation	2.06km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
86	Local Plan Allocation, North East Lincolnshire Council Local Plan (2018) HOU301 (Housing – Proposed Allocation)	Local Plan Allocation	464m from the Site	No	Unlikely as no applications currently proposed within area	No
87	DM/0422/17/FUL Construction of a carbon regeneration plant, hydrothermal plant and associated works.	Local Plan Allocation	1.85km north of the Site	Yes – Potential for construction periods to overlap	Yes – Potential for significant environmental effect that merit consideration	Yes
89	North Lincolnshire Council Housing Employment Land Allocations DPD (2016) SHBE-1: South Humber Bank, Employment Land Gross site area - 900 hectares. Indicative sector - Mixed (Note: the Examination Submission version of the North Lincolnshire Local Plan (November 2022) allocates the same site for employment use with reference "SS10: South Humber Bank". Example land use indicated as being B2, B8 Estuary Related including energy generation. Site area: 900 hectares.)	Local Plan Allocation	3.45km from the Site	No	Unlikely as no applications currently proposed within area	No

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
93	H1P-31, Land at School Road, South Killingholme Allocated for 21 dwellings including affordable Site area - 0.69 hectares.	Local Plan Allocation	4.7km from the Site	No	Unlikely as no applications currently proposed within area	No
94	Humber International Terminal berth 2: adaptation for car carriers Marine Management Organisation application: MLA/2020/00520	Marine Licence Application	2.63km from the Site	Yes	Yes – Potential for significant environmental effect that merit consideration	Yes
95	PA/2018/918 Planning permission to construct a new gas-fired power station with a gross electrical output of up to 49.9 megawatts. A further non-material amendment application has been made (PA/2021/1039)	Major	3.71km from the Site	Yes	Yes – Potential for significant environmental effect that merit consideration	Yes
96	DM/0111/21/FUL Installation of wash down facility to include new drainage, underground tanks, above ground tanks with 1 m high bunded wall enclosure, installation of 2.4 m high track and trace ANPR (automatic number plate recognition) system and siting of modular building for staff welfare at Immingham Lorry Park Pelham Road	Minor	0.89km from the Site	Yes	Yes – Potential for significant environmental effect that merit consideration	Yes

ID	Name/Description	Scale	Distance from the Site (approx.)	Stage 2 - Screening for detailed CEA		
				Overlap in temporal scope?	Scale and nature of development likely to have a significant effect?	Progress to Stage 3/4?
97	Environment Agency Humber Stallingborough Phase 3 Project	Major	1.8km from the Site	Yes	Yes – Potential for significant environmental effect that merit consideration	Yes

- 25.6.6 **Table 25.4** indicates that 22 of the 93 shortlisted developments should be considered further for their potential to generate significant adverse cumulative effects. Of these developments it is considered that the Immingham Eastern Ro-Ro Terminal (IERRT) (ID 22: TR030007) has the greatest potential to lead to significant cumulative effects in association with the Project due to its nature, scale and location - this development is discussed in the section below.
- 25.6.7 It should be noted the Applicant intends to submit a scoping report to NELC for a separate project in the near future. The project would comprise two onshore wind turbines constructed within the Port of Immingham. However, at this preliminary stage, few details are available and, as a result, this project has been scoped out of the CEA process to date. However, this will be revisited at the ES stage and assessed appropriately as more details become available.

Immingham Eastern Ro-Ro Terminal

- 25.6.8 The IERRT development comprises a new roll-on/roll-off terminal in the Port of Immingham and the Grid Reference used for site identification of that project is approximately 920m to the west of the westernmost extent of the Project marine Site Boundary (ID 22 on **Figure 25.1** (PEI Report, Volume III)). The Site Boundary of that project extends eastward to includes areas which are in close proximity to the IGET Site Boundary.
- 25.6.9 The IERRT development progressed through a statutory consultation between 19 January 2022 and 23 February 2022 and then through a supplementary consultation between 28 October 2022 and 27 November 2022. A Development Consent Order (DCO) application for the IERRT development is expected to be brought forward imminently. The IERRT development and the Project both involve new jetties, are in close spatial proximity and there is the potential for their construction programmes to overlap. This means that there is at least the potential for these developments to interact leading to potential significant cumulative effects.
- 25.6.10 This potential for the Project and the IERRT development to interact cumulatively will vary depending on the periods of construction and operation for each project and the extent to which these periods overlap. The following cumulative scenarios are possible:
- IERRT is under construction at the same time as the Project, at least in part
 - IERRT is operational by the time the Project construction commences
 - IERRT and the Project are operational at the same time (this is the expected long-term operational scenario)
- 25.6.11 Consideration has been given to these scenarios for each of the technical areas within the scope of the EIA of the Project and reported in this PEI Report to consider the potential for cumulative effects. Cumulative effects are most likely to arise where a theoretical pathway exists, which would enable the impacts from the two projects to interact, or, where the impacts act on the same receptor. **Table 25.5** below provides a preliminary assessment of the potential for these effects to arise. Further details for those topics which are 'scoped in' by this preliminary assessment are provided in subsequent paragraphs as relevant.

Table 25.5 IERRT and IGET Cumulative Effects Scoping

Chapter	Scoped in	Justification
6: Air Quality	Yes	<p>The construction and operational phases of IERRT and the Project will use Kings Road and Queens Road for HGV access. There is the potential for the two projects to act cumulatively in respect of air quality given this common access route for HGVs. Further consideration is given below to this.</p> <p>The construction and operational phases of IERRT and the Project will both generate emissions to air that could impact on the same locations within the Humber Estuary SAC/SPA/RAMSAR. Further consideration is given to this below.</p>
7: Noise and Vibration	Yes	<p>The construction and operational phases of IERRT and the Project will use Kings Road and Queens Road for HGV access. There is the potential for the two projects to act cumulatively in respect of noise and vibration given this common access route for HGVs as well as other noise impacts arising on the Project's west site. Further consideration is given to this below in Paragraph 25.6.12.</p>
8: Nature Conservation (Terrestrial Ecology)	No	<p>Any impacts to terrestrial habitats or species are predicted to be spatially limited for both the Project and IERRT. The Project is not expected to interact cumulatively with IERRT in respect of these issues and potentially significant cumulative effects are not anticipated.</p>
9: Nature Conservation (Marine Ecology) and 10: Ornithology	Yes	<p>There is no certainty at present that cumulative effects can be scoped out. However, mitigation measures will be deployed to mitigate the impacts of the IERRT development and the Project. These measures will need to be agreed with Natural England (as they will for the Project).</p> <p>The mitigation measures employed as necessary in respect of each project will minimize the potential for individual effects, such as those resulting from disturbance, arising from each project alone and will also minimize cumulative effects between the two projects through both construction and operation. Further details on mitigation measures to be deployed will be defined in the ES for the Project at which point the potential for cumulative effects on Marine Ecology and Ornithology will be assessed further and reported as necessary.</p>

Chapter	Scoped in	Justification
		<p>For the potential for air quality impacts on saltmarsh habitats, please see 6: Air Quality above and the additional text below in Paragraph 25.6.12.</p>
11: Traffic and Transport	Yes	<p>The construction and operational phases of IERRT and the Project will use Kings Road and Queens Road for HGV access. There is the potential for the two projects to act cumulatively in respect of transport impacts given this common access route for HGVs. Further consideration is given below to this in Paragraph 25.6.12.</p>
12: Marine Transport and Navigation	Yes	<p>There is no certainty at present that cumulative effects can be scoped out. However, mitigation measures will be deployed to mitigate the impacts of the IERRT project and these measures will need to be agreed with the relevant stakeholders (as they will for the Project). Vessel traffic movements for both schemes will be managed by Humber Estuary Services and its Vessel Traffic Services.</p> <p>The mitigation measures employed as necessary in respect of each project, as defined through the Navigational Risk Assessment process, will minimize the potential for navigational risks, arising from each project alone and so will also minimize cumulative effects between the two projects through both construction and operation. Further details on mitigation measures to be deployed will be defined in the ES for the Project at which point the potential for cumulative effects on Marine Transport and Navigation will be assessed further and reported as necessary.</p>
13: Landscape and Visual	No	<p>Landscape and visual effects have been scoped out of the EIA for IERRT given that the development will take place within the existing port curtilage.</p> <p>Given the nature of the baseline context, cumulative effects due to the IERRT development and the Project could arise but are not likely to introduce new or different significant effects. Similarly, any potential visual cumulative effects are likely to be of negligible magnitude (not significant) and experienced in the wider context of industrial views and infrastructure and are not likely to introduce new or different significant effects.</p>

Chapter	Scoped in	Justification
		<p>Given these reasons, the Project is not expected to interact cumulatively with IERRT in a way which would generate significant cumulative effects.</p>
14: Historic Environment (Terrestrial)	No	<p>Any impacts on terrestrial archaeology are predicted to be spatially limited for both the Project and IERRT. There are no sensitive settings for built heritage. Given both of these reasons, the Project is not expected to interact cumulatively with IERRT and potentially significant cumulative effects on terrestrial historic environment receptors are not anticipated.</p>
15: Historic Environment (Marine)	Yes	<p>There is no certainty at present that cumulative effects can be scoped out. However, mitigation measures will be deployed to mitigate the impacts of the IERRT project and these measures will need to be agreed with the relevant stakeholders (as they will for the Project).</p> <p>The mitigation measures employed as necessary in respect of each project, will minimise the potential for effects on marine archeological resources arising from each project alone and so will also minimise cumulative effects between the two projects through both construction and operation. Further details on mitigation measures to be deployed will be defined in the ES for the Project at which point the potential for cumulative effects on Historic Environment (Marine) will be assessed further and reported as necessary.</p>
16: Physical Processes	Yes	<p>Changes to physical processes are predicted to be spatially limited for both the Project and IERRT. There is however, no certainty at present that cumulative effects can be scoped out. However, mitigation measures will be deployed to mitigate the impacts of the IERRT project and these measures will need to be agreed with the relevant stakeholders (as they will for the Project).</p> <p>The mitigation measures employed as necessary in respect of each project, will minimise the potential for physical process effects arising from each project alone and so will also minimise cumulative effects between the two projects through both construction and operation. Further details on mitigation measures to be deployed</p>

Chapter	Scoped in	Justification
		<p>will be defined in the ES for the Project at which point the potential for cumulative effects on Physical Processes will be assessed further and reported as necessary.</p>
17: Marine Water and Sediment Quality	Yes	<p>Changes to water and sediment quality, are predicted to be spatially limited for both the Project and IERRT. There is however, no certainty at present that cumulative effects can be scoped out. However, mitigation measures will be deployed to mitigate the impacts of the IERRT project and these measures will need to be agreed with the relevant stakeholders (as they will for the Project).</p> <p>The mitigation measures employed as necessary in respect of each project, will minimise the potential for Marine Water and Sediment Quality effects arising from each project alone and so will also minimise cumulative effects between the two projects through both construction and operation. Further details on mitigation measures to be deployed will be defined in the ES for the Project at which point the potential for cumulative effects on Marine Water and Sediment Quality will be assessed further and reported as necessary.</p>
18: Water Quality, Coastal Protection, Flood Risk and Drainage	No	<p>Any changes to water quality in waterbodies (excluding the Humber, covered under marine), are predicted to be spatially limited for both the Project and the IERRT development. In respect of flood risk and drainage both developments would have their own design responses and measures to mitigate any potential effects on the respective sites. Further details for the Project will be provided at the ES stage.</p> <p>The Project is not expected to interact cumulatively with IERRT in respect of these issues and potentially significant cumulative effects are not anticipated.</p>
19: Climate Change	No	<p>The IERRT development and the Project will both generate greenhouse gas emissions during construction but will each have a range of mitigation measures deployed to minimise these effects.</p> <p>Depending on market demand, the operational Project will generate up to 3% of the Government's production capacity target for hydrogen to be used as fuel for the de-carbonisation of the HGV and bus fleets in the UK.</p>

Chapter	Scoped in	Justification
		Neither IERRT nor the Project is expected to impact on the ability for the UK to meet its carbon budget and climate change obligations and no significant cumulative effects are expected.
20: Materials and Waste	No	Any waste and materials impacts are generally expected to be spatially limited for both the Project and IERRT although there is likely to be some use of the same waste management facilities for similar waste streams. Mitigation measures, such as the deployment of the measures set out in a Construction Environmental Management Plan (CEMP) and the Site Waste Management Plan, would be in place for both projects to ensure no significant project specific effects arise. Given this, the Project is not expected to interact cumulatively with IERRT and potentially significant cumulative effects on materials and waste resources are not anticipated.
21: Ground Conditions and Land Quality	No	Any impacts on ground conditions are predicted to be spatially limited for both the Project and IERRT. Mitigation measures, such as the deployment of the measures set out in a CEMP, would be in place for both projects to ensure no significant project specific effects arise. Given this, the Project is not expected to interact cumulatively with IERRT and potentially significant cumulative effects on land quality are not anticipated.
22: Major Accidents and Disasters	No	The potential for major accidents for both IERRT and the Project would be managed down to appropriate levels through the deployment of appropriate safety measures such that no cumulative effects would arise.
23: Socio Economics	Yes	IERRT and the Project are not likely to generate significant adverse socio-economic effects that would interact cumulatively. There may be some beneficial effects, including economic benefits and indirect employment opportunities, which have a greater beneficial effect that would be realised from either project in isolation. However, the influx of workers could potentially lead to an adverse effect on local services when assessed cumulatively, with more workers temporarily residing in the local area. Further consideration will be given to this at the ES stage.

Chapter	Scoped in	Justification
24: Human Health and Wellbeing	No	IERRT and the Project are not likely to generate adverse health effects that would interact cumulatively. Further consideration will be given to this at the ES stage.

25.6.12 Those technical areas which are considered to have the potential to interact cumulatively and are marked as 'scoped in' in **Table 25.5** above and for which additional initial assessment has been undertaken are considered further in the following paragraphs. These represent preliminary assessments, which will be further developed and presented in the ES:

- a. **Traffic and Transport:** IERRT operational HGV movements are estimated at approximately 2,000 movements per day. This is substantially greater than the 195 HGVs movements per day predicted during the Project's peak construction phase or the 98 HGV movements per day during the Project's operational phase. It is understood that mitigation measures, such as access enhancements, would be deployed for the IERRT development which will reduce the effects on the transport network to a level which is not significant. Given this, it is considered unlikely that a cumulative effect would arise between the two projects in a scenario when IERRT is operational and the Project is either in construction or operation. If the construction phases of IERRT and the Project overlap the risk of a cumulative effect is not considered likely to be significant due to the limited predicted construction phase impact from the Project and the introduction and management of the traffic for both projects through Construction Traffic Management Plans.
- b. **Noise and Vibration:** Should IERRT be consented, background sound levels may be influenced by an increase in road traffic on Queens Road and the A1173, and to a lesser extent by distant activities related to loading and unloading of sea vessels and use of new parking/waiting areas within the existing port area.

It is considered unlikely that significant cumulative effects from The Project and IERRT would occur on the northern facades of the properties facing Queens Road if either the construction phases or operational phases coincided. This is because the Project traffic passing the Queens Road properties is expected to result in minor or negligible adverse (not significant) effects, and both construction and operation noise effects from the IERRT site are expected to be minor adverse or less (not significant). If the IERRT project is consented, the properties will also benefit from proposed installation of an appropriate package of noise insulation to the northern facades of the properties. It is also considered that the cumulative effects of noise from traffic using Queens Road, if operation of IERRT coincided with construction or operation of The Project, remains at minor adverse or less (not significant), given the proposed installation of an appropriate package of noise insulation to the northern facades of the properties associated with the IERRT proposals.

- c. However, there is the potential for cumulative effects of noise from IERRT operational traffic on Queens Road impacting the northern façade of these properties (albeit reduced due to the package of sound insulation to be provided in association with the IERRT proposals) whilst construction or operation of The Project on the West site could impact the southern (rear) facades of the same properties. This will be considered further during the EIA and reported in the ES. As explained in **Table 22.2 of Chapter 22: Major Accidents and Disasters** further assessment is required of the consequences of the operation of the hydrogen production facility on surrounding land uses in terms of major hazard planning. It is currently anticipated that the continued residential use of seven properties on the west side of Queens Road will need to cease, as residential use is unlikely to be compatible with the operation of the hydrogen production facility on the West Site. A number of businesses are also present in the same area on the west side of Queens Road. It is likely that those businesses are compatible with the operation of the hydrogen production facility. Air Products is currently in discussions with the landowners / occupiers of the seven residential properties with a view to negotiating their acquisition. Where it is not possible to acquire those properties through negotiation, acquisition powers for these properties will be sought through the DCO. In the event of acquisition of the properties for the Project ahead of the construction commencing, an adverse effect on those properties (as assessed in this chapter) would not arise.
- d. **Air Quality:** Construction phase and operational phase traffic data on the local road network due to the Project have been reviewed against air quality impact screening criteria published by the Institute of Air Quality Management (IAQM)/Environmental Protection UK (EPUK) and criteria published by National Highways. During both construction and operational phases, additional traffic movements due to the Project fall below all air quality impact screening criteria. Both IAQM/EPUK and National Highways guidance suggest that a detailed assessment of air quality impacts from road traffic sources (cumulative or not) is not required where the screening criteria are not met. Therefore, the contribution from the Project's road traffic emissions has not been quantified and it can be concluded that the contribution from that the Project would not have a cumulative effect, if considered together with IERRT, that would be significant.

The site plant and vessel emissions from construction and operational phases of IERRT and the Project would both generate emissions to air that could impact on the same locations within the Humber Estuary SAC/SPA/RAMSAR. Habitats within the designated areas close to IERRT and the Project are not considered sensitive to construction dust impacts. Salt marsh habitat, the nearest of which is approximately 3km from IERRT and 2.5km from the Project, are sensitive to emissions of NO_x and the subsequent deposition of nitrogen. Individually, air quality assessments for both projects have concluded that the air quality effect on saltmarsh habitats is not significant and this lowers the potential for a significant cumulative effect to arise. However, this will be assessed further once the Project's site plant and vessel emissions data are modelled together with the IERRT vessel emissions.

Appropriate mitigation measures will be deployed to mitigate any significant adverse effects of the emissions as appropriate. This will be examined in more detail within the ES.

25.6.13 The ES will provide a detailed assessment of the potential for cumulative effects associated with the Project and the IERRT development. In the event that potentially significant cumulative effects are identified, the ES will identify any mitigation measures that are required to reduce the level of the residual effects to not significant levels.

25.7 Cumulative Effects Information Gathering and Assessment (Stages 3 and 4)

25.7.1 The process of gathering information on the shortlisted developments displayed in **Table 25.4** is ongoing, with the data collated being used to assess the potential interaction of the developments with the Project (Stage 3).

25.7.2 The results of Stage 3 and the full cumulative assessment (Stage 4) will be reported within the ES.

25.8 Limitations

25.8.1 Details regarding the potential for in-combination effects uses information from the assessments contained within the relevant PEI Report technical chapters (**Chapters 6 to 24**). This information is thus subject to the limitations as associated with these preliminary assessments.

25.8.2 With regard to potential cumulative effects, the information included within this chapter is based upon information available at the time of the assessment regarding the environmental effects of the other potential or committed schemes in the vicinity of the Project that have been scoped into the assessment.

25.9 References

- Ref 25-1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- Ref 25-2 Department for Transport (2012). The National Planning Policy Statement for Ports.
- Ref 25-3 European Commission (2014). Directive 2014/ 52/ EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/ 92/ EU on the assessment of the effects of certain public and private projects on the environment.
- Ref 25-4 The Planning Inspectorate (2019). Advice Note Seventeen. Cumulative Effects Assessment (Version 2).
- Ref 25-5 UK Marine Policy Statement (2011).
- Ref 25-6 Marine Management Organisation (2016). East Inshore and East Offshore Marine Plans.
- Ref 25-7 The Town and Country Planning (Development Management Procedure) (England) Order 2015.