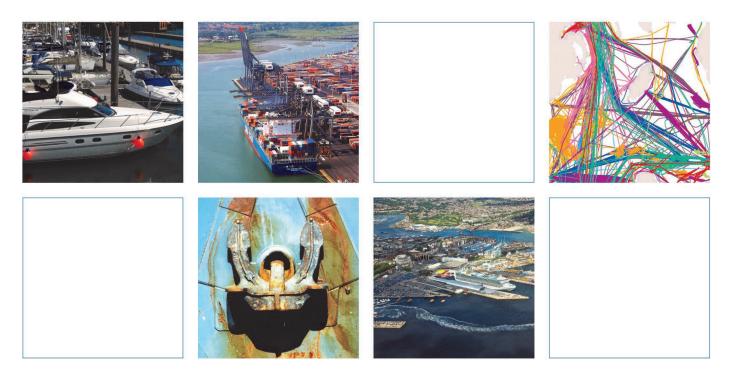
Associated British Ports

Immingham Eastern Ro-Ro Terminal

Preliminary Environmental Information Chapter 20: Cumulative and In-combination Effects

January 2022



Innovative Thinking - Sustainable Solutions



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20 Cumulative and In-combination Effects

20.1 Introduction

- 20.1.1 If the Immingham Eastern Ro-Ro Terminal (IERRT) is approved, construction and operation of the project may be undertaken at the same time as a number of other plans, projects, and ongoing activities. These other plans, projects and ongoing activities may have the potential to result in additional or modified impacts on the same receptors as those identified for this proposed development, resulting in a cumulative and/or incombination impact.
- 20.1.2 Associated British Ports (ABP), as the applicant, is required, under the Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (as amended) to assess any other plans, projects, and activities, including any impacts that do not directly overlap spatially but may indirectly result in a cumulative and/or in-combination impact in light of the proposed development. It should be noted that this exercise also informs the assessment of in-combination impacts as required by the Habitats Regulations.
- 20.1.3 The Infrastructure Planning (EIA) Regulations specifically reference 'cumulative' effects, while the Habitats Regulations refer to 'in-combination' effects. In practice, however, this is interpreted as referring to both cumulative and in-combination effects because the assessments, whether for EIA or for a Habitats Regulations Assessment (HRA), need to take into account the combined influence of all of the environmental pressures acting upon the relevant receptors in assessing the significance of environmental effects.
- 20.1.4 On this basis, the principal difference between the cumulative assessment for EIA and the in-combination assessment for HRA is the range of receptors included in the assessment. For the purposes of the EIA, the range of features to be assessed needs to cover both environmental receptors (including protected interest features) and other human activities and interests that might be affected. The HRA on the other hand, focuses solely on the relevant interest features potentially affected within the internationally designated sites that have been screened into the assessment.
- 20.1.5 This chapter presents the approach to, and initial stages of, the preliminary assessment of the cumulative and in-combination effects of the proposed IERRT project. The key marine elements of the proposed development are shown on Figure 1.2 in Volume 2 of this Preliminary Environmental Information Report (PEIR). This chapter has been prepared by ABPmer.
- 20.1.6 Section 20.2 below presents the implications of legislation, policy, and guidance in relation to cumulative and in-combination effects, and Section 20.3 details the consultation which has taken place. The assessment

methodology that will be followed in the final Environmental Statement (ES) are set out in Section 20.4, and Sections 20.5 and 20.6 presents the outcomes of the initial stages of the assessment.

20.1.7 The individual EIA topic assessments (Chapters 7 to 19) will inform the outcomes of the cumulative and in-combination assessment. Appendix 20.1 contains the preliminary long list and short list of other plans, projects, and activities to be considered in the cumulative/in-combination assessment which will be included in the ES.

20.2 Implications of policy legislation and guidance

20.2.1 This section of the chapter sets out key aspects and implications of policy and guidance that are relevant to the assessment of cumulative and incombination effects. It builds upon the overarching chapter covering the Legislative and Consenting Framework (Chapter 5). This will be kept under review as the assessment progresses.

Legislation

EIA Regulations

- 20.2.2 The Infrastructure Planning (EIA) Regulations 2017 (as amended) transposed the EU Directive 2014/52/EU (the EIA Directive) into English law.
- 20.2.3 Regulation 5(2) of the EIA Regulations highlights that an EIA shall identify, describe, and assess in an appropriate manner, "*the interaction between the factors referred to in points (a) to (d)*", namely:

(a) "population and human health;
(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
(c) land, soil, water, air and climate;
(d) material assets, cultural heritage and the landscape; ..."

20.2.4 Schedule 4(5)(e) of the EIA Regulations states that a description should be included of the likely significant effects resulting from:

"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular importance likely to be affected or the use of natural resources; ..."

20.2.5 Regulation 14(2)(f) of the EIA Regulations indicates that, amongst other things, an environmental statement should include:

"any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected."

The Habitats Regulations

- 20.2.6 The Habitats Regulations¹ transposed the Habitats Directive (Directive 92/43/EEC) and the Birds Directive (2009/147/EC) into English law.
- 20.2.7 Where a development project is located close to, or within, a European/Ramsar site, the "Habitats Regulations" apply. This requires the Competent Authority to determine whether the proposed works have the potential for a likely significant effect (LSE) on the interest features and/or supporting habitat of a European/Ramsar site either alone or in-combination with other plans, projects, and activities and, if so, to undertake an Appropriate Assessment (AA) of the implications of the proposals in light of the site's conservation objectives.
- 20.2.8 A HRA will be undertaken for the IERRT project given the overlap of the proposed development with the Humber Estuary Special Area of Conservation (SAC) Special Protection Area (SPA) and Ramsar site (see Chapter 9).
- 20.2.9 The outcomes of the cumulative and in-combination assessment will inform the HRA which will be included within the ES for the IERRT project.

National policy

National Policy Statement for Ports (NPSfP)

- 20.2.10 The National Policy Statement for Ports (NPSfP) provides the framework for decisions on proposals for new port developments (Department for Transport (DfT), 2012). Section 4.2 of the policy states that a proposal for port infrastructure needs to consider the benefits, including the contribution that the scheme would make to the national, regional, or more local need for the infrastructure, against anticipated adverse impacts, including cumulative impacts.
- 20.2.11 In terms of pollution control and other environmental regulatory regimes, Section 4.11 of the NPSfP advises that decision-making should involve consultation with relevant statutory bodies to ensure that in the case of potentially polluting development, the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits. In addition, Section 5.6 of the NPSfP relating to water quality and resources notes that cumulative effects should be described in the ES. These considerations have been assessed in the water and sediment quality chapter (Chapter 8) and ground conditions, including land quality chapter (Chapter 12) of the PEIR and will inform the cumulative and in-combination assessment presented in the ES.

¹ Following the UK leaving the EU, these have been modified by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

- 20.2.12 In terms of human health, Section 4.16 the NPSfP states that health impacts may affect people simultaneously, so there is a need to consider the cumulative impact on health. The cumulative effect of the proposed development on human health will be considered in the ES.
- 20.2.13 The NPSfP advises that where a socio-economic assessment has been included in the ES, this assessment should consider all relevant socio-economic impacts, including cumulative effects. These have been considered in the socio-economic chapter (Chapter 15) of this PEIR and will inform the cumulative and in-combination assessment presented in the ES.

UK Marine Policy Statement (MPS)

- 20.2.14 The Marine Policy Statement (MPS) is the framework for preparing marine plans and taking decisions affecting the marine environment. The MPS also sets out the general environmental, social, and economic considerations that need to be taken into account in marine planning and provides guidance on the pressures and impacts that decision makers need to consider when planning for and permitting development in the UK marine areas.
- 20.2.15 In terms of considering cumulative effects in the preparation of marine plans, Paragraph 2.3.1.6 of the MPS states that "They [Marine Plans] should identify how the potential impacts of activities will be managed, including cumulative effects. Close working across plan boundaries will enable the marine plan authority to take account of the cumulative effects of activities at plan boundaries. The consideration of cumulative effects alongside other evidence may enable limits or targets for the area to be determined in the Marine Plan, if it is appropriate to do so."
- 20.2.16 In terms of decision making, paragraph 2.3.2.1 states that "When considering potential benefits and adverse effects, decision makers should also take into account any multiple and cumulative impacts of proposals, in the light of other projects and activities." In terms of port development, paragraph 3.4.11 advises that "When decision makers are advising on or determining an application for an order granting development consent in relation to ports, or when marine plan authorities are developing Marine Plans, they should take into account the contribution that the development would make to the national, regional or more local need for the infrastructure, against expected adverse effects including cumulative impacts."

East Inshore and East Offshore Marine Plans

20.2.17 The East Inshore and East Offshore Marine Plans, which are collectively referred to as 'the East Marine Plans', were formally adopted on 2 April 2014 (Department for Environment, Food and Rural Affairs (Defra), 2014). The East Inshore Marine Plan area covers 6,000 km² of sea, from mean high water springs (MHWS) out to the 12 nautical mile limit from Flamborough Head in the north to Felixstowe in the south. The East Offshore Marine Plan covers 49,000 km² of area from the 12 nautical mile limit to the border with The Netherlands, Belgium, and France.

- 20.2.18 There is one policy within the East Marine Plans specifically related to cumulative effects:
 - Policy ECO1 Cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation.
- 20.2.19 A marine plan conformance assessment will be produced as part of the ES which will provide a review of the proposed development against this policy. This assessment of this policy will be informed by the cumulative and incombination effects assessment that will be included in the ES.

Guidance

Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects

- 20.2.20 In its Advice Note 17 (Planning Inspectorate (PINS), 2019), PINS highlights that there is a range of public sector and industry-led guidance available on cumulative effects assessment and no single agreed industry standard method. Consequently, it is recognised that the approach taken to such assessments within applications for development consent varies.
- 20.2.21 In respect of cumulative effects assessment, AN17 sets out a "staged process that applicants may wish to adopt in CEA (Cumulative Effects Assessment) for NSIPs". A staged approach along the lines set out in AN17 is proposed in respect of the IERRT project, as explained further in Section 20.4.
- 20.2.22 PINS Advice Notes do not give any specific guidance on in-combination effects assessment. However, Advice Note 9 (Rochdale Envelope) (PINS, 2018) explains that the interactions between different aspect / topic assessments should be taken into account.

20.3 Consultation

- 20.3.1 An initial consultation has been undertaken with relevant bodies in light of the comments received as part of the formal scoping process with a view to identifying whether there are any likely cumulative/in-combination effects arising or likely to arise as a result of the construction and operation of this Project.
- 20.3.2 The preliminary consultation that has been undertaken to date, along with the outcome of such consultation and how it has influenced the cumulative/in-combination effects assessment is provided in Table 20.1.
- 20.3.3 All comments relating to the cumulative and in-combination effects assessment that are submitted during statutory consultation and any subsequent ongoing consultation will be taken into account in the preparation of the ES chapter on cumulative/in-combination effects.

20.3.4 Comments are requested from consultees through the statutory consultation on the methodology and preliminary short list of other proposed developments (see Appendix 20.1) set out in this PEIR chapter.

Table 20.1. Summary of consultation to date

Consultee	Reference, Date	Summary of Response	How comments have been addressed in this chapter
PINS	Scoping Opinion, October 2021 Paragraph 3.3.4	The Applicant should clearly state which developments will be assumed to be under construction or operational as part of the future baseline.	The approach to considering other developments has been described in this cumulative and in-combination effects PEIR chapter and will be clearly presented in the ES.
PINS	Paragraph 3.3.5	The Applicant is referred to the advice in section 3.1 of the Inspectorate's Advice Note 17 on using the zone of influence of the Proposed Development to identify other developments which could lead to cumulative environmental effects (rather than a distance of 2 km, as stated in the Scoping Report).	The area of search to identify other developments has been based on the zone of influence of each assessment topic and expert professional judgement as presented in the PEIR chapters (see Section 20.4).
Marine management Organisation (MMO)	Scoping Opinion, October 2021 Appendix 2 MMO response	The MMO is content with the proposal for cumulative impacts and in- combinations impacts in the Scoping Report and has no further projects to add at this time.	N/A
Natural England	Scoping Opinion, October 2021 Appendix 2 Natural England response	It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any	Proposals at scoping stage will be considered in the assessment, referred to as Tier 2 development (see Section 20.4). The cumulative assessment of any relevant Tier 2 developments will be

Consultee	Reference, Date	Summary of Response	How comments have been addressed in this chapter
		existing developments and current applications. Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage.	clearly presented in the ES.
Natural England	Scoping Opinion, October 2021 Appendix 2 Natural England response	The following types of projects should be included in such an assessment, (subject to available information):existing completed projects; approved but uncompleted projects; ongoing activities; plans or projects for which an application has been made and which are under consideration by the consenting authorities; and plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.	These types of plans, projects and activities will be considered in the assessment (see Section 20.4).

20.4 Assessment methodology

20.4.1 The cumulative (and in-combination) assessment will consider the effects of the IERRT project alongside those arising from other plans, projects, and ongoing activities. Cumulative impacts result from the combined impacts of multiple developments or from the combined effect of individual impacts (e.g. where different project elements in different locations have a cumulative impact on a particular feature). The impacts resulting from a single scheme may not be significant on their own but when combined with impacts resulting from other schemes, these could change the level of significance and potentially become significant.

- 20.4.2 The assessment of cumulative and/or in-combination effects of the proposed development alone, which are referred to as intra-project effects, will involve identifying the impact pathways from the individual EIA topic assessments (Chapters 7 to 19) that may have residual adverse impacts and considering whether and to what degree they might have the potential to act on the same receptor.
- 20.4.3 The assessment of cumulative and/or in-combination effects of the proposed development with other plans, projects, and ongoing activities, which are referred to as inter-project effects, will involve identifying and assessing any potential overlap or interaction of effects arising from other plans, projects and activities with the effects arising from the IERRT project on the receptors/topics considered in this PEIR.
- 20.4.4 The assessment methodology that will be followed in the ES is set out below. Inter-project effects and intra-project effects are considered separately.

Inter-project effects

- 20.4.5 In accordance with PINS Advice Note 17, a staged approach to the interproject effects assessment is proposed for the proposed development. The stages consist of:
 - Stage 1 establish a long list of other developments²;
 - Stage 2 establish a short list of developments from the Stage 1 long list;
 - Stage 3 gather information on the short list of developments; and
 - Stage 4 undertake an assessment of the cumulative effects of the short list developments with the IERRT project.
- 20.4.6 For the purposes of the PEIR, Stage 1 and Stage 2 have been completed. However, the assessment should be iterative and may need to be updated a number of times so that the ES reflects the latest position of relevant other development proposed within the vicinity of the IERRT project at the time the Development Consent Order (DCO) application is submitted. Comments received during ongoing consultation will also be taken into account as part of the assessment process.

Stage 1 – Establishing a Long List of Developments

- 20.4.7 Stage 1 of the inter-project effects assessment process comprises the identification of a long list of other development proposed in the vicinity of the proposed the IERRT project.
- 20.4.8 The first step in establishing such a long list was to identify the different types of development to investigate. A comprehensive approach was taken whereby types of development considered included development:

² 'Development' in this context will include other plans, projects, and ongoing activities.

- Being taken forward under the Town and Country Planning regime with a distinction being made between 'major' development, as defined by the appropriate planning legislation, and 'non-major' development;
- Being taken forward under the Nationally Significant Infrastructure Project (NSIP) regime; and
- Being taken forward under the Marine Licence regime.
- 20.4.9 In addition, and in response to consultation feedback from Natural England as part of the scoping process, consideration was given to any plans and/or ongoing activities that have the potential to overlap or interact with the proposed development.
- 20.4.10 Applications for householder development, minor alternations to nonresidential properties, and applications for advertisement consent have been scoped out of the process, as there is considered to be limited potential for these development types to give rise to significant cumulative effects with the IERRT project, due to their very minor scale. Any such developments of these types currently taking place are also considered likely to be completed prior to the construction of the proposed development.
- 20.4.11 The second step in establishing a long list was then to consider what development to include in the list having regard to the certainty of that development taking place, which has implications for the level of detail likely to be available about the development in question.
- 20.4.12 Advice Note 17 provides criteria that may be used to indicate the certainty that can be applied to each 'other existing development and/or approved development'. The criteria are assigned in tiers which descend from Tier 1 (most certain) to Tier 3 (least certain) which can be assigned to each development as follows:
 - Tier 1 development:
 - Under construction;
 - Permitted application(s), but not yet implemented; and
 - Submitted application(s) but not yet determined.
 - Tier 2 development:
 - Projects on the PINS Programme of Projects where a scoping report has been submitted.
 - Tier 3 development:
 - Projects on the PINS Programme of Projects where a scoping report has not been submitted;
 - Identified in the relevant Development Plan (and emerging Development Plans – with appropriate weight being given as they move closer to adoption) recognising that there will be limited information available on the relevant proposals; and
 - Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

- 20.4.13 This guidance has been used to guide the types of development identified on the long list.
- 20.4.14 Rejected applications, which are not the subject of appeals or are outside the timeframe for bringing an appeal, and withdrawn applications have been scoped out of the process. This is because the implementation of these planning applications is not considered to be reasonably foreseeable, as they are not approved or extant applications.
- 20.4.15 Allocated sites within relevant development plans which are not yet subject to planning or marine licence applications, and projects identified in other plans and programmes which set the framework for future development – namely Tier 3 types of developments other than those on the PINS Programme of Projects – have been scoped out of the process. This is because the details of any development that may come forward as a result of these plans are unknown. It is also expected that future developers bringing forward projects identified in these plans would carry out their own assessment of cumulative effects.
- 20.4.16 The third step in establishing a long list of developments consisted of defining the area of search. These areas of search have been identified taking into account the different Zones of Influence (ZoI) for each relevant environmental topic assessment considered within the various chapters of the PEIR. For each environmental topic, the ZoI corresponds with the study area described in the respective PEIR chapter. The ZoI for each assessment topic is included in Table 20.2.

Environmental Topic	Approximate Zone of Influence (from proposed development site)			
Physical processes	The Humber Estuary covering approximately			
Water and sediment quality	20 km to the west and 15 km to the east of the			
Nature conservation and	proposed development, from the mouth to up-			
marine ecology	estuary of the Hull Bend.			
Commercial and recreational navigation				
Coastal protection, flood defence and drainage	3 km upstream and 9 km downstream from the proposed development, covering flood area 24 in			
	the Humber Estuary Strategy.			
Ground conditions, including land quality	1 km from the proposed development.			
Air quality	350 m for sensitive receptors from construction site activity.			
	20 km for sensitive road link receptors, including main routes from the Port of Immingham to the A160, A180, as well as the A15 (Humber Crossing) and M180 (as shown in Figure 17.1 in Volume 2 of the PEIR).			

Table 20.2. Overview of Zones of Influence

Environmental Topic	Approximate Zone of Influence (from proposed development site)		
Airborne noise and vibration	1 km from proposed development site for construction and operational noise.		
	20 km from the proposed development site for noise sensitive road link receptors, including main routes from the Port to the A160, A180, as well as the A15 (Humber Crossing) and M180 (as shown in Figure 17.1 in Volume 2 of the PEIR).		
Cultural heritage and marine archaeology	5 km buffer zone beyond the area of the proposed development in order to include harbour setting.		
Socio-economic	20 km from the proposed development site.		
Traffic and transport	20 km from the proposed development site, including main routes from the Port to the A160, A180, as well as the A15 (Humber Crossing) and M180 (as shown in Figure 17.1 in Volume 2 of the PEIR).		
Land use planning	Health and Safety Executive (HSE) Outer Zone used for land use planning.		
Climate change	Direct emissions and the proposed development's resilience to climate change are considered within the boundary of the proposed development.		
	Indirect emissions associated with the scheme can occur on a global scale i.e. scope 3 greenhouse gas (GHG) emissions from international shipping.		

- 20.4.17 Following a review of the ZoI for each topic, and consideration of the scale and nature of the proposed development and the preliminary findings of the assessments undertaken in the PEIR, the areas of search for the interproject effects assessment were identified for each development type (Table 20.3).
- 20.4.18 Based on the expert professional judgement of the project team, the identified areas of search are considered to be suitably wide to ensure that other developments which could result in potentially significant cumulative effects with the proposed development are identified.
- 20.4.19 Any other developments that consultees suggest should be included in the inter-project effects assessment during the statutory consultation process will be considered on a case-by-case basis. This will include those outside the areas of search but which fall within a wider ZoI for a specific topic or topics.
- 20.4.20 Developments to be included in the long list have been initially identified and are shown in Appendix 20.1. These were collated from a review of the extant application records held online by relevant local planning authorities, information available on PINS' NSIP Programme of Projects and

applications for marine licence activities/development on the MMO's online marine license register.

Other development type	Status of development	Equivalent Tier given in Advice Note 17	Area of search
Major development (as defined under the	Projects that are under construction	Tier 1	5 km
Development Management Procedure (England)	Permitted application(s) not yet implemented	Tier 1	
Order 2015) (as amended)) / Local Development Orders	Submitted application(s) not yet determined	Tier 1	
(as set out within the Town and Country Planning Act 1990 (as amended))	All refusals subject to appeal procedures not yet determined	Not specifically included in AN17 but considered to be equivalent to Tier 1	
Non-major development	Projects that are under construction	Tier 1	1 km
	Permitted application(s) not yet implemented	Tier 1	
	Submitted application(s) not yet determined	Tier 1	
	All refusals subject to appeal procedures not yet determined	Not specifically included in AN17 but considered to be equivalent to Tier 1	
Nationally Significant Infrastructure Projects / Projects on the PINS Programme of Projects	Projects on the PINS Programme of Projects that are under construction	Tier 1	10 km
	Projects with development consent not yet implemented	Tier 1	
	Submitted application(s) undergoing the development consent process but not yet	Tier 1	

Table 20.3. Types of other proposed development and areas of search

consented

Other development type	Status of development	Equivalent Tier given in Advice Note 17	Area of search
	All refusals subject to judicial review not yet determined	Not specifically included in AN17 but considered to be equivalent to Tier 1	
	Projects on the Programme of Projects where a scoping report has been submitted	Tier 2	
	Projects on the Programme of Projects where a scoping report has not been submitted	Tier 3	
Marine licence activities/development	Projects on the MMO marine licence register that are being undertaken/constructed	Not specifically included in AN17 but considered to be equivalent to Tier 1	5 km
	Permitted application(s) not yet implemented	Not specifically included in AN17 but considered to be equivalent to Tier 1	
	Submitted applications not yet determined	Not specifically included in AN17 but considered to be equivalent to Tier 1	
	All refusals subject to appeal procedures not yet determined	Not specifically included in AN17 but considered to be equivalent to Tier 1	
Projects identified in development plans and other plans and programmes	Projects identified in the relevant development plan (and emerging development plans)	Tier 3	N/A – Scoped out
	Projects identified in other plans and programmes	Tier 3	

Other development type	Status of development	Equivalent Tier given in Advice Note 17	Area of search
	(as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward		

Stage 2 – Establishing a short list of developments for the assessment

- 20.4.21 The preliminary long list of developments identified at Stage 1 (see Appendix 20.1) has then been filtered to produce a short list which includes only those other developments considered to potentially give rise to significant cumulative effects. This was achieved using a set of criteria which include a consideration of the factors outlined in Advice Note 17 (PINS, 2019).
- 20.4.22 The criteria used to determine whether to include or exclude other existing development and/or approved development are as follows:
 - Criterion 1 Temporal scope: the development is not completed or operational, and the construction or operation of the development would be likely to take place within the same time period as the programmed construction or operation of the proposed development.
 - Criterion 2 Location, scale, and nature of the development: the development is either within 500 m of the proposed development or is identified as 'EIA development' under the Marine Works (EIA) Regulations 2007 (as amended), Town and Country Planning (EIA) Regulations 2017 (as amended) or the Infrastructure Planning (EIA) Regulations 2017 (as amended).
 - Criterion 3 Source-pathway-receptor linkages: it is considered that, for any one or more environmental topics/aspects, a significant cumulative effect could occur due to potential source-pathway-receptor linkages shared between the development and the proposed development.
- 20.4.23 The temporal scope used to establish the short list comprises the suggested construction and operation timescales of the IERRT project. It is envisaged that construction works will start in Summer 2023 and will have been largely completed and operational by mid-2025.
- 20.4.24 In order to ensure an appropriate and proportionate assessment, only those projects which met all of the above criteria were included in the short list, unless professional judgement suggested otherwise.

20.4.25 Appendix 20.1 sets out which developments have been filtered out and which are included within the preliminary short list and proposed to be taken forward for assessment.

Stage 3 – Gather information on the short list developments

- 20.4.26 Stage 3 of the assessment involves gathering as far as is possible detailed information on the short-listed developments in order to then undertake the assessment. This information includes the following:
 - Proposed design and location information;
 - Proposed programme of construction, operation, and decommissioning;
 - Relevant environmental assessment information (if available) and any other relevant information to understand the environmental impacts of the proposed development and the potential for significant cumulative effects; and
 - Any other publicly available information deemed to be relevant.
- 20.4.27 Stage 3 of the process will be undertaken to inform the inter-project effects assessment (Stage 4) which will be presented in the ES.

Stage 4 – Undertake the assessment

- 20.4.28 This stage involves undertaking the cumulative/in-combination effects assessment of the short-listed developments and the proposed development. The assessment will be undertaken to an appropriate level of detail having regard to the type and extent of information available. Professional judgement will be used to determine the potential for significant cumulative effects.
- 20.4.29 The Stage 4 assessment will be presented in the ES.

Intra-project effects

- 20.4.30 The assessment of intra-project effects involves the consideration of where two or more different types of effect arising from the IERRT project could interact and whether this interaction could result in a significant combined effect upon environmental receptors or resources.
- 20.4.31 The assessment of cumulative and/or in-combination effects of the proposed development alone (i.e. intra-project effects) will involve reviewing the assessment of impact pathways from the individual EIA topic assessments (Chapters 7 to 19). For each receptor, the impact pathways with residual adverse impacts from across all topic chapters will be identified and the potential cumulative/in-combination effects assessed (i.e. considering whether and to what degree they might have the potential to act on the same receptor).

- 20.4.32 The receptors scoped into the assessment and the residual effects predicted to be experienced by them will then be set out in a table. This provides a clear overview of the different residual effects identified for each receptor and facilitate the assessment of intra-project effects.
- 20.4.33 The assessment will then be undertaken using the information from the topic assessments. A qualitative assessment will be undertaken by the project team using professional judgement, considering the interaction of the different residual effects on a given receptor and whether this interaction could give rise to a significant intra-project effect.
- 20.4.34 The overall level of significance of the potential combined effect on the receptor will be identified based on professional judgement informed by the level of significance of the relevant residual effects reported in the topic assessments. The outcome of this assessment, including any significant cumulative/in-combination effects predicted and any proposed mitigation, will be presented in the ES.

20.5 Inter-project Effects Assessment (Stages 1 and 2)

Identification of a long list of developments and activities

- 20.5.1 The long list of developments and activities that have been identified at this preliminary stage (Stage 1 of the process) is provided in Table 20.4.
- 20.5.2 The only NSIP identified within the area of search for this type of development (10 km) was the Able Marine Energy Park. This comprises the development of a new quay and associated development at Killingholme in North Lincolnshire, on the south bank of the Humber Estuary. It is located approximately 3 km north west of the proposed development. An application for 'Material Change 2' to the Able Marine Energy Park DCO was submitted to PINS on 25 June 2021. The Examining Body is currently due to complete the examination of that application by 16 March 2022.
- 20.5.3 Keadby 3 Low Carbon Gas Power Station Project, and North Lincolnshire Green Energy Park are also recorded on PINS' NSIP Programme of Projects. These projects are both located near Scunthorpe in Lincolnshire, over the 30 km west of the proposed development. Given they are outside the 10 km area of search (see Table 20.3) these projects are not included in the long list set out in Table 20.4.

Identification of a short list of developments and activities

20.5.4 Table 20.4 also identifies the developments and activities that have initially been shortlisted at this preliminary stage (Stage 2 of the process) along with a justification for this position. The developments which have been shortlisted and are proposed to be scoped into the inter-project effects assessment are identified in the final column of Table 20.4.

	• • •					
No.	Application/ project/ activity details	Description and location	Application date and approval (where relevant)	Approx. size of project	Status of application/ project/ activity	Scoped in to short list?
Majo	r Developments and M	larine Licence Activities/Deve	lopments (withi	n 5 km)		
1.	Marine Management Organisation Disposal of dredged material: MLA/2014/00431/2	Maintenance dredge disposal - Grimsby & Immingham and Sunk Dredged Channel Maintenance of access channels, berth pockets, approaches to port areas and enclosed docks to remove recently accreted sediment. Disposal of maintenance dredged material at Humber 1A (HU080), Humber 3A (HU060), and Humber 2 (HU090).	Application submitted 9/9/2014 Approved on 18/12/2014 Variation request submitted and approved on 07/12/2021	Various (depending on dredge and disposal site)	Tier 1: projects on the MMO marine licence register that are being undertaken	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).
2.	Marine Management Organisation Construction of new works: MLA/2020/00520	Humber International Terminal berth 2: adaptation for car carriers	Application submitted 16/11/2020	1 ha	Tier 1: Submitted applications not yet determined	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).
3.	Marine Management Organisation Other works	Outstrays to Skeffling Managed Realignment Scheme (OtSMRS) comprising the	Application submitted 14/03/2019	250 ha	Tier 1: Projects on the MMO marine licence register that are	Yes – the project meets short list criteria detailed for

Table 20.4.	Projects.	developm	ents and a	activities sco	ped into inte	-proje	ect effects a	ssessment (lond	g list and short list)

No.	Application/ project/ activity details	Description and location	Application date and approval (where relevant)	Approx. size of project	Status of application/ project/ activity	Scoped in to short list?
	MLA/2019/00111 and MLA/2019/00112	implementation of a managed realignment scheme on the north bank of the Humber Estuary	Approved on 11/12/2020		being undertaken/con structed	Stage 2 (Section 20.4).
Non	-major Development (w		•		-	
4.	North East LincoInshire Council Full application: DM/1141/21/FUL	Retrospective change of use to mixed business use (Class B2 and B8) to include heat log, wood chip floor covering and wood pellet manufacturing, with ancillary warehousing, storage, and offices. Erection of 1no 24 m flue chimney at Mistral Renewable Energy Ltd Netherlands Way	Application validated 22/11/2021	0.64 ha	Tier 1: Submitted application not yet determined	No – the project does not meet the following short list criteria (Section 20.4): Criterion 2 – Location, scale and nature of the development Criterion 3 – Source pathway receptor linkages
5.	North East Lincolnshire Council Full application: DM/0762/21/FUL	Erect 80 megawatt battery energy facility and associated external works at Land Off Netherlands Way	Application validated 10/08/2021	1.44 ha	Tier 1: Submitted application not yet determined	No – the project does not meet the following short list criteria (Section 20.4): Criterion 2 – Location, scale and nature of the development

No.	Application/ project/ activity details	Description and location	escription and location (where relevant) Application date and approval (where relevant)		Status of application/ project/ activity	Scoped in to short list?		
						Criterion 3 – Source pathway receptor linkages		
6.	North East Lincolnshire Council Application: DM/0657/21/DEM	Prior notification to demolish the Former DFDS Warehouse 11	Application validated 5/07/2021	0.9 ha	Tier 1: Projects that are under construction/ completed	No – the project does not meet the following short list criteria (Section 20.4): Criterion 1 – Temporal scope (completed in 2021)		
7.	North East Lincolnshire Council Application: DM/0723/21/DEM	Prior notification to demolish steel portal framed transit shed	Application validated 20/07/2021	0.7 ha	Tier 1: Projects that are under construction/ completed	No – the project does not meet the following short list criteria (Section 20.4): Criterion 1 – Temporal scope (due to be completed in early 2022)		
8.	North East Lincolnshire Council Full application: DM/0469/21/FUL	Construction of two single storey units (Use Class B2, B8, E(C)(iii) and E(g) plus Sui Generis trade counter) with associated works including parking	Application validated 24/05/2021	0.73 ha	Tier 1: Submitted application not yet determined	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).		

No.	Application/ project/ activity Description and location details		Application date and approval (where relevant)	Approx. size of project	Status of application/ project/ activity	Scoped in to short list?
		and service area, lighting columns, perimeter fencing and landscaping at Land At Hall Park Road				
9.	North East Lincolnshire Council Full application: 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	Application validated 24/05/2021 Approved 16/04/2021	0.11 ha	Tier 1: Projects that are under construction	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).
10.	North East LincoInshire Council Full application: DM/0294/21/FUL	New access road from the existing public highway at Land Adjacent Recycling Centre Queens Road	Application validated 18/03/2021 Approved 18/06/2021	0.0012 ha	Tier 1: Projects that are under construction	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).
11.	North East Lincolnshire Council Application: DM/1057/20/SCR	Request for EIA Screening opinion - Proposed new Border Control Post at Land Off Queens Road	Application validated 7/12/2020 Decision (EIA not	2.3 ha	Tier 1: Projects that are under construction	No – the project does not meet the following short list criteria (Section 20.4):

No.	Application/ project/ activity details	Description and location	Application date and approval (where relevant)	Approx. size of project	Status of application/ project/ activity	Scoped in to short list?
			required) 28/01/2021		To be completed under permitted development rights	Criterion 3 – Source pathway receptor linkages.
Natio	onally Significant Infras	tructure Projects (within 10 kr	n)			-
12.	National Infrastructure Planning Able Marine Energy Park DCO as consented and Material Change 1 and Material Change 2	Development of a new quay and associated development at Killingholme in North Lincolnshire, on the south bank of the Humber Estuary.	Application for material change 2 to DCO submitted 25/06/2021	268 ha	Tier 1: Submitted application undergoing the development consent application process but not yet consented	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).
13.	National Infrastructure Planning Able Marine Energy Park (Cherry Cobb Sands)	Regulated Tidal Exchange & Managed Realignment scheme on the north bank of the Humber Estuary near Cherry Cobb Sands to compensate for the development of a new quay and associated development at Killingholme in North Lincolnshire, on the south	Application for material change 2 to DCO submitted 25/06/2021	196.1 ha	Tier 1: Submitted application undergoing the development consent application process but not yet consented	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).

No.	Application/ project/ activity details	Description and location	Application date and location approval (where relevant)		Status of application/ project/ activity	Scoped in to short list?
		bank of the Humber Estuary.				
Othe	r known projects					
14.	Environment Agency Stallingborough Flood Defences	Upgrading of flood defences on south bank of the Humber Estuary between Immingham and Grimsby	Not yet submitted	Unknown	Tier 3 development	Yes – the project meets short list criteria detailed for Stage 2 (Section 20.4).

20.6 Intra-project Effects Assessment

- 20.6.1 From a review of the preliminary topic assessments in the chapters to this PEIR and in accordance with the methodology outlined in this chapter, the following receptors have been identified:
 - Water and sediment quality;
 - Benthic habitats and species;
 - Fish;
 - Marine mammals;
 - Coastal waterbirds;
 - Local residents / population;
 - Flood defences;
 - Soils/groundwater;
 - Existing development/property (building and services);
 - Existing businesses; and
 - Proposed development.
- 20.6.2 An overview of the residual effects these receptors are predicted to experience as assessed at this preliminary stage is set out in Table 20.5. This preliminary work will be kept under review during the assessment process. This review will also take account of any comments received during consultation.
- 20.6.3 The assessment as to whether any significant intra-project effects could arise as a result of the interaction of the residual effects set out in Table 20.5 will be presented in the ES.

	Construction impact pathways					Operational impact pathways										
Receptors	Dredging, piling and disposal	Underwater noise	Noise and visual disturbance	Vessel traffic	Flood risk	Ground contamination	Noise and vibration	Climate change	Dredging, piling and disposal	Noise and visual disturbance	Flood risk	Ground contamination	Air quality	Noise and vibration	Traffic	Climate change
Water and sediment quality	Х					Х			Х							
Benthic habitats and features	Х												Х			
Fish		Х														
Marine mammals		Х														
Coastal waterbirds	Х		Х							Х						
Local residents / population				Х	Х	х	Х				Х	х	Х	Х	Х	
Flood defences											Х					
Soils/ groundwater						Х						Х				
Existing																
development/ property (building and services)				Х	Х						Х	х				
Existing businesses				Х									Х			
Proposed development								Х								Х

Table 20.5. Receptors and environmental effects identified for inclusion in the intra-project effects assessment

20.7 References

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20.8 Abbreviations/Acronyms

Acronym	Definition
AA	Appropriate Assessment
ABP	Associated British Ports
ANPR	Automatic Number Plate Recognition
CEA	Cumulative Effects Assessment
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EC	European Commission
EEC	European Economic Community
EIA	Environmental Impact Assessment
ES	Environmental Statement
GHG	Greenhouse Gas
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
IERRT	Immingham Eastern Ro-Ro Terminal
LSE	Likely Significant Effect
MHWS	Mean High Water Springs
MMO	Marine management Organisation
MPS	Marine Policy Statement
NPSfP	National Policy Statement for Ports
NSIP	Nationally Significant Infrastructure Project
OtSMRS	Outstrays to Skeffling Managed Realignment Scheme
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
Ramsar	Wetlands of international importance, designated under The Convention on Wetlands (Ramsar, Iran, 1971)
SAC	Special Area of Conservation
SPA	Special Protection Area
Zol	Zone of Influence

20.9 Glossary

Term Cumulative/in- combination effects	Definition Additional or modified effects on receptors as a result of interactions between the individual impacts of the proposed development and/or the proposed development and other plans, projects, and ongoing activities
Inter-project effects	Cumulative and/or in-combination effects of the proposed development with other plans, projects, and ongoing activities on the same receptor
Intra-project effects	Cumulative and/or in-combination effects of the proposed development alone acting on the same receptor

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