



**AQUIND Limited**

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## **PEIR CHAPTER 28**

Cumulative Effects



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## 28 CUMULATIVE EFFECTS

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### 28.1 INTRODUCTION

28.1.1.1 The potential for significant cumulative environmental effects as a result of the Proposed Development will be assessed in the ES.

28.1.1.2 There are two types of cumulative effects which are considered in EIA:

- Intra-project effects: The interaction and combination of environmental effects, and indirect effects of the Proposed Development affecting the same receptor, either within the Site or in the local area; and
- Inter-project effects: The interaction and combination of environmental effects of the Proposed Development with other development and activities affecting the same receptor.

28.1.1.3 Inter-project effects are assessed in this chapter on a preliminary basis. Inter- and intra- project effects are to be considered further within the ES.

28.1.1.4 When considered in isolation environmental effects of a single resource or receptor may not be significant. However, when individual effects are considered in combination the resulting cumulative effect may be significant.

28.1.1.5 The assessment will consider the capacity of environmental resource and receptors to accommodate changes that are likely to occur. This includes the duration, extent, type (additive or synergistic), frequency, value and resilience of the receptor and likely mitigation.

### 28.2 LEGISLATION, POLICY AND GUIDANCE

#### 28.2.1 LEGISLATION

28.2.1.1 The requirement for cumulative effect assessment is stated in the following relevant European Directive and domestic legislation:

- European Directive 2011/92EU (as amended by Directive 2014/52/EU) on the assessments of effects of certain public and private projects on the environment requires an assessment of “*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 project*”.
- Schedule 4 of the EIA Regulations 2017 requires that an environmental statement includes:
  - “(5) 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 description of the likely significant effects on the factors specified in regulation 5(2) 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.”*

## 28.2.2 POLICY

- The Overarching NPS EN-1 states at paragraph 4.2.5 *“When considering cumulative effects, 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)”*.

## 28.2.3 GUIDANCE

- PINS Advice Note nine (2018) provides guidance on cumulative effects and states that:

*“The potential cumulative impacts with other developments will also need to be carefully identified such that the likely significant effects can be shown to have been identified and assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other development should be identified through consultation with the local planning authorities and other relevant authorities. Applicants should have regard to the staged approach to cumulative effects assessment set out in Planning Inspectorate’s Advice Note Seventeen: Cumulative Effects Assessment.”*

- PINS Advice Note seventeen (2015) provides advice on cumulative effect assessment (‘CEA’) relevant to nationally significant infrastructure projects.

## 28.3 ENVIRONMENTAL IMPACT ASSESSMENT SCOPING OPINION

28.3.1.1 A request for a Scoping Opinion was submitted to PINS on 29 October 2018, setting out the proposed EIA approach for the Proposed Development. A Scoping Opinion was received 7 December 2018, see Appendix 5.1 and 5.2, respectively.

28.3.1.2 Appendix 5.3 provides a summary of the representations received in the Scoping Opinion in relation to the assessment of potential cumulative effects, and how each will be addressed by the Applicant.

## 28.4 ASSESSMENT METHODOLOGY

28.4.1.1 The following section describes the method adopted for the assessment of potential cumulative effects.

28.4.1.2 The proposed method for the assessment of potential cumulative effects takes into account the above legislation, policy and guidance, and the Scoping Opinion representations.

28.4.1.3 PINS Advice Note seventeen (2015) has non-statutory status but provides guidance on the CEA Process, a four-stage approach, for applicants to adopt in cumulative effects assessment for NSIPs in the absence of a single, agreed industry standard method. Table 28.1 presents these four stages:

**Table 28.1 – The CEA Stages**

<b>CEA Stage</b>	<b>Main Activities</b>
Stage 1 – Establishing a Zone of Influence for the proposed scheme and identifying a long list of other development	Identifying a long list of other development that is proposed in the vicinity of the proposed scheme.
Stage 2 – Identify a shortlist of other development	Identifying the nature of the other development and assessing whether there is the potential for significant cumulative effects based upon the potential for temporal overlap and the nature and scale of the other development.
Stage 3 – Information gathering	Collation of information on the other development identified at Stage 2.
Stage 4 - Assessment	Review each of the other developments in turn to assess whether cumulative effects may arise. Mitigation measures should be identified in relation to adverse cumulative effects.

28.4.1.4 This approach has been broadly followed in undertaking the CEA to date. However, there are differences in presentation of information between the onshore and marine assessments, which is mainly due differences in the zone of influence ('ZOI') for the Onshore Cable Route and the Marine Cable Corridor; the very different existing environment and methods of identifying other development. Sections 28.5 and 28.6 below summarise the approach to onshore and marine assessment cumulative effects.

## **28.4.2 SIGNIFICANCE OF EFFECTS**

28.4.2.1 PINS Advice Note seventeen states that:

*“The significance criteria used to assess likely cumulative effects should consider the capacity of environmental resources and receptors to accommodate changes that are likely to occur.”*

28.4.2.2 The generic significance of effects matrix that is presented in Chapter 4 EIA Methodology will be used for the CEA, unless otherwise stated within the relevant topic chapter. Intra and inter project effects are assessed to be negligible, minor, moderate or major and both adverse or beneficial.

28.4.2.3 There is no standard prescriptive method for assessing combined and cumulative effects, and the extent to which the effects of other developments can be assessed quantitatively depends on the level of information available about the other developments. Where environmental assessment information regarding other developments is not available or certain, the assessment is necessarily qualitative. Where that is the case, we will discuss with the relevant authorities about whether it is worth including that particular development in the cumulative assessment given the importance of a cumulative assessment to be proportionate and meaningful.

### **28.4.3 ASSUMPTIONS AND LIMITATIONS**

28.4.3.1 This chapter of the PEIR provides preliminary information as it relates to both the Proposed Development to date and data currently available and collected at the point of assessment.

28.4.3.2 The information contained herein is intended to inform consultation responses at this stage. It should be noted that due to the level of information available regarding identification of individual receptors and impacts at this stage, an assessment of intra-project effects has not yet been undertaken for all of the onshore and marine receptors. An assessment of intra-project effects and potential significant impacts as a result of the onshore and marine elements of the Proposed Development on identified sensitive receptors will be undertaken at subsequent stages to inform the ES.

28.4.3.3 The marine cumulative assessment has progressed further than the onshore cumulative assessment in order to take advantage of the marine PEIR consultation.

28.4.3.4 Any gaps in information identified at this PEIR stage will be considered and addressed along with specific mitigation measures as part of the assessments for the production of the ES.

## **28.5 MARINE CUMULATIVE EFFECTS**

28.5.1.1 For marine chapters, the CEA process identified other developments within a ZOI that is defined within each technical chapter and which is relevant for the receptors and impacts identified for each topic assessment. These ZOIs are further explained within each technical chapter and their accompanying appendix that presents the locations and details of the list of projects/plans considered as part of the CEA.

- 28.5.1.2 A long list of projects within the wider region that have the potential to give rise to a cumulative effect was developed. This list was compiled on 30 October 2018 and is considered sufficient for undertaking preliminary CEA for the PEIR. Projects and plans were sourced from the MMO's Marine Information System, with further projects and plans included from the PINS Programme of Projects and relevant local planning authority planning portals.
- 28.5.1.3 The list will be updated during the preparation of the final ES to include any more recent projects/plans. The long list of projects presented in each marine technical appendix has then been refined within each technical appendix matrix using the following criteria:
- A spatial assessment was conducted. A project identified in the long list of projects/plans falling within the ZOI was screened in for further consideration;
  - A temporal, scale and nature-based assessment was identified; and then
  - Taking the above into account, any projects considered like to affect the marine technical discipline, and/or likely to result in significant effects due to their scale and nature have been identified for further detailed assessment.
- 28.5.1.4 The outcomes of each of the marine cumulative assessments are reported within the marine chapters and corresponding appendices that contain the cumulative assessment matrices.

## **28.6 ONSHORE CUMULATIVE EFFECTS**

- 28.6.1.1 Committed developments are defined as development for which planning consent has been granted or in some instances may include foreseeable development currently under planning determination. In order to ensure that a meaningful CEA is carried out, only projects which are reasonably well described and sufficiently advanced will be considered. Where any such projects are identified and screened out, justification will be provided.
- 28.6.1.2 The ZOI for the onshore assessment has been determined following consideration of the likely significant effects that could reasonably arise from the committed developments that have been considered alongside the Proposed Development.
- 28.6.1.3 It is anticipated that a qualitative cumulative effects assessment will be undertaken for the majority of environmental topics considered. However, partially quantitative assessments may be undertaken for traffic-related effects for air quality and noise, and a number of marine topics. These will be outlined in the ES.
- 28.6.1.4 This section is supported by Figure 28.1, which shows the other developments considered within this cumulative assessment.

## 28.6.2 STAGE 1

28.6.2.1 An initial screening exercise (Stage 1 of the CEA) was undertaken to identify potential developments within the ZOI of the Proposed Development for each environmental topic for consideration of cumulative effects.

28.6.2.2 For onshore chapters, this process identified other developments within 1 km, and larger developments within the vicinity to create an initial long list for consideration. PINS Advice note 17 states “*The scale and nature of NSIPs will typically dictate a broad spatial and temporal zone of influence (ZOI) for an NSIP...*” For the onshore chapters, the study area for each environmental assessment topic was used to identify a common zone of influence. Study areas are defined by relevant institutional guidelines which are discussed in each respective chapter and documented in Table 28.2.

**Table 28.2 - Study Area for each PEIR onshore technical discipline**

<b>Environmental Aspect</b>	<b>Stage of Development</b>	<b>Study Area</b>
<b>15. Landscape and Visual</b>	Construction and Operation of the Converter Station	8 km radius for baseline review, district/county level assessment and long-distance views  3 km radius for the inner study area (local landscape character and views)
	Construction of Onshore Cable Route and Landfall	20 m width with a 100 m buffer either side of the working widths
<b>16. Onshore Ecology</b>	Construction and Operation of the Converter station	10 km for European sites (SACs, SPAs and Ramsar sites);

<b>Environmental Aspect</b>	<b>Stage of Development</b>	<b>Study Area</b>
	Construction and Operation of the Onshore Cable Route and Landfall	<p>2 km for nationally designated sites, which include SSSI and LNR</p> <p>1 km for non-statutory sites designated for nature conservation value</p> <p>1 km for information regarding Habitats of Principal Importance ('HPI') and woodland listed on the Ancient Woodland Inventory</p> <p>2 km for bat records</p> <p>1 km for records of legally protected and notable species</p> <p>250 m for Phase 1 and great crested newt surveys</p>
<b>17. Soils and Agricultural Land Use</b>	Construction and Operation	Site Boundary
<b>18. Ground Conditions</b>	Construction and Operation	250 m radius of the Site Boundary
<b>19. Water Resources and Flood Risk and Groundwater</b>	Construction and Operation – surface water	Surface water features within a 500 m radius of the Site Boundary, however features up to 1 km from the Site Boundary will be considered and further if deemed to be highly sensitive.
	Construction and Operation – Groundwater assessment	<p>Groundwater features within a 500 m radius of the Site Boundary.</p> <p>Groundwater abstractions up to a minimum of 1 km from the Site Boundary.</p>

<b>Environmental Aspect</b>	<b>Stage of Development</b>	<b>Study Area</b>
<b>20. Heritage and Archaeology</b>	Construction and Operation	2 km radius of the Site Boundary.
<b>21. Traffic and Transport</b>	Highways Network	Existing local and strategic road network and PRow routes within the vicinity of the Site Boundary.  To be agreed with HCC, PCC and Highways England.
	Road Safety	
	Public Transport Network	
	Pedestrian and Cycle Network	
<b>22. Air Quality</b>	Construction	Human receptors: 350 m radius of the Site Boundary and 50 m radius from construction routes  Ecological receptors: 50 m radius of the Site Boundary and 50 m radius from construction routes
<b>23. Noise and Vibration</b>	Construction and Operation	To be agreed during consultation with the EHO at EHDC and WCC (to include the closest residential receptors)
<b>24. Socio-economics</b>	Construction and Operation	The areas administered by EHDC, HDC, PCC and WCC
<b>25. Human Health</b>	Construction and Operation	The areas administered by EHDC, HDC, PCC and WCC
<b>26. Waste and Material Resources</b>	Construction and Operation	In line with guidance set out in Interim Advice Note ('IAN') 153/11 Environmental Assessment of Material Resources which represents current best practice.

Environmental Aspect	Stage of Development	Study Area
27. Carbon and Climate Change	Greenhouse Gas Emissions Assessment	There is no geographical restriction in terms of where emissions are likely to occur. The assessment will be in line with IEMA's EIA guide 'Assessing GHG emissions and evaluating their significance' (IEMA, 2017).
	Climate Resilience Assessment	The Proposed Development

28.6.2.3 For onshore chapters, the majority of study areas for each of the individual environmental topic assessments are 1 km or less, in so far as they relate to potential cumulative effects. This is therefore considered to be a suitably wide area, based on professional judgement to ensure that all the potentially significant cumulative effects to onshore committed developments are identified. Where study areas are wider, any additional schemes submitted through consultation, will be considered on a case by case basis.

28.6.2.4 The list of committed developments was collated based on information available from HCC, HBC, EHDC, PCC and WCC, PINS and relevant local plans. This list of proposed developments to be considered in the CEA was compiled through searches of local authority planning portals for planning applications, and direct consultation with local authorities. Appendix 28.1 contains the long list of committed developments within the vicinity of the Proposed Development.

28.6.2.5 Considerations of temporal scope has included construction, operation and decommissioning programmes to establish whether there is overlap and any potential for interaction.

28.6.2.6 The scale and nature of developments identified have been included if it is considered that interactions between developments and the Proposed Development could result in a cumulative effect.

### 28.6.3 STAGE 2

#### Identification of Short List of Other Developments for Assessment

28.6.3.1 The long list of developments identified in Stage 1 was screened for developments with the potential to lead to significant cumulative effects. For onshore chapters, the committed developments that were considered unlikely to cause rise to significant cumulative effects have been omitted as part of the screening process, those that were likely to cause cumulative effects will be included in the subsequent Stage 3 and 4 CEA assessment.

28.6.3.2 In order to screen projects, in addition to the ZOI, the following threshold criteria has been applied:

- Temporal scope: construction would need to fall within 1 year of the programmed construction of the Proposed Development for cumulative construction effects with it to be assessed.
- The scale and nature of other development: projects greater than 0.5 ha, used as a threshold for likely significant effects in Schedule 2 of the EIA Regulations. However, it is also acknowledged that some projects under this threshold may give rise to cumulative effects, so projects within 100 m of the Site Boundary are included due to their proximity to the Proposed Development.

28.6.3.3 For the purposes of the PEIR, the short list of developments includes developments which have been submitted into the planning or DCO system that are awaiting decision, granted/ refused permission (within 12 months) and/or under construction (classified as Tier 1 developments (Planning Inspectorate, 2015)). The closest NSIP from the Planning Inspectorate's Programme of Projects, for which a scoping report has been submitted, is the A27 Arundel Bypass which is approximately 31 km to the east of the Proposed Development, and has therefore not been included in the short list although it is featured in the long list (Tier 2 development (Planning Inspectorate, 2015)). Any developments that would be classified as Tier 3 under PINS advice note 17 will be determined via consultation with the local planning authorities and the Planning Inspectorate following the publication of the PEIR.

28.6.3.4 These were screened based on distance, size and nature of the development. This screened list was submitted and since refined following the submission of the EIA Scoping Report and reduced to an initial shortlist for consideration in the ES assessment. The short list of committed developments being taken forward to Stages 3 and 4 to be assessed in the ES are outlined in Appendix 28.1 and 28.2. This list will continue to be updated throughout the assessment process until publication of the ES.

### **Scoping Opinion and Consultation**

28.6.3.5 The EIA Scoping Report submitted to PINS on 29 October 2018 identified schemes to be considered in the assessment of cumulative effects and sought confirmation from PINS on these schemes (Appendix 5.1). The PINS Scoping Opinion received 7 December 2018 (Appendix 5.2) confirmed these schemes and did not identify any further schemes for inclusion, however suggestions were made by relevant consultees.

- 28.6.3.6 WCC and EHDC requested the inclusion of the existing Lovedean substation and existing solar farm at Day Lane. It is considered that as these two developments are already constructed, they would form part of the baseline, and would therefore not qualify as a committed development for the CEA in the ES. The impact on the interaction with these developments is therefore covered in the main discipline chapters.
- 28.6.3.7 Natural England stated that a Scoping Report has been submitted for a redevelopment of the Fraser Range site at Eastney, which should be taken into consideration. The status of this application is not yet available, with pre-application consultation undertaken in February 2018. The only reference of this site available was in an officer report for an application Ref. 16/01438/FUL for a new access at Fraser Range that was refused. The officer's report states that the wider development of the Fraser Range site, including the access road, would be considered an EIA Development. No Scoping request has been submitted and no Screening Opinion has been provided for either the refused application or the wider site. On this basis, the redevelopment of the Fraser Range site at Eastney has not been included in the list of committed developments and therefore not included within the CEA. However, if an application were to be submitted after the writing of this report, then the application will be considered in the ES. The plans and projects to be considered as part of the cumulative effects assessment will be kept under review and updated for the ES where required.
- 28.6.3.8 Natural England and WCC requested the inclusion of Portsmouth and Coastal Defence Schemes for Portsea Island. Consultation is being undertaken with the East Solent Coastal Partnership. Applications in relation to defence schemes in this area will be monitored and included within the committed developments list where appropriate.
- 28.6.3.9 HBC provided notification that construction of Grainger Development has commenced.
- 28.6.3.10 EHDC provided notification that land south of Lovedean substation, Broadway Lane had planning permission for a Battery Storage facility. However, following a legal challenge, this permission was quashed. Subsequently, a request for a Screening Opinion was submitted by the Applicants. This has now been determined by EHDC (Ref. 57524/003), and concluded that no EIA was required. A new application is anticipated, but at the time of writing this PEIR, had not yet been submitted.
- 28.6.3.11 Appendix 28.1 presents the summary of projects and plans considered for the onshore Stage 1 and 2 cumulative assessment as applicable. Of the initial long list of projects, those shortlisted have been taken forward for Stage 3 and 4 for detailed cumulative effects assessment in the ES. Appendix 28.2 is to be read in conjunction with Figure 28.1.

28.6.3.12 The list of committed developments will be updated as appropriate during the preparation of the Application.

## **28.7 ASSESSMENT STILL TO BE UNDERTAKEN**

28.7.1.1 The CEA is reliant upon the availability of information relating to the identified schemes and the assessment is therefore based upon the degree of information that is available at the time for the PEIR assessment.

28.7.1.2 The following will be presented in the ES:

- An update of the CEA based upon the latest knowledge of the other projects considered in this assessment and their progress towards becoming operational;
- An assessment of the intra-project effects. Until the individual topic assessments have been sufficiently progressed for the ES, no attempt has been made to identify intra-project interactions;
- A review of the proposed list of cumulative developments for consideration in the CEA. Cumulative developments suitable for this CEA that arise following submission of the PEIR will be considered as part of the ES;
- Stage 3 - Collation of information on the other development identified at Stage 2; and
- Stage 4 – Assessment - Review each of the other developments in turn to assess whether cumulative effects may arise. Mitigation measures should be identified in relation to adverse cumulative effects.

## REFERENCES

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Planning Inspectorate. (2015). Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure.