The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 1

Part 3 Kent Onshore Scheme

Chapter 13 Kent Onshore Scheme Intra-Project Cumulative Effects

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3.13 Kent Onshore Scheme Intra Project Cumulative Effects

3.13.1 Introduction

3.13.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents how the preliminary intra-project cumulative effects assessment has considered the potential significant cumulative effects that may arise from the Proposed Project (where a single receptor is affected by multiple aspects of a project, worsening the effect). A description of intra-project cumulative effects and the methodology is presented in **Volume 2, Part 1, Appendix 1.5.A: Cumulative Effects Methodologies.**

3.13.1.2 The draft Order Limits, which illustrate the boundary of the Proposed Project, are illustrated on **Figure 1.1.1 Draft Order Limits** and the Kent Onshore Scheme Boundary is illustrated on **Figure 1.1.3 Kent Onshore Scheme Boundary**.

3.13.1.3 This chapter should be read in conjunction with:

- **Volume 1, Part 1, Chapter 4: Description of the Proposed Project**;
- **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**;
- **Volume 1, Part 1, Chapter 6: Scoping Opinion and EIA Consultation**; and
- **Volume 1, Part 3, Chapter 1: Evolution of the Project in Kent**

3.13.1.4 This chapter is supported by the following appendices:

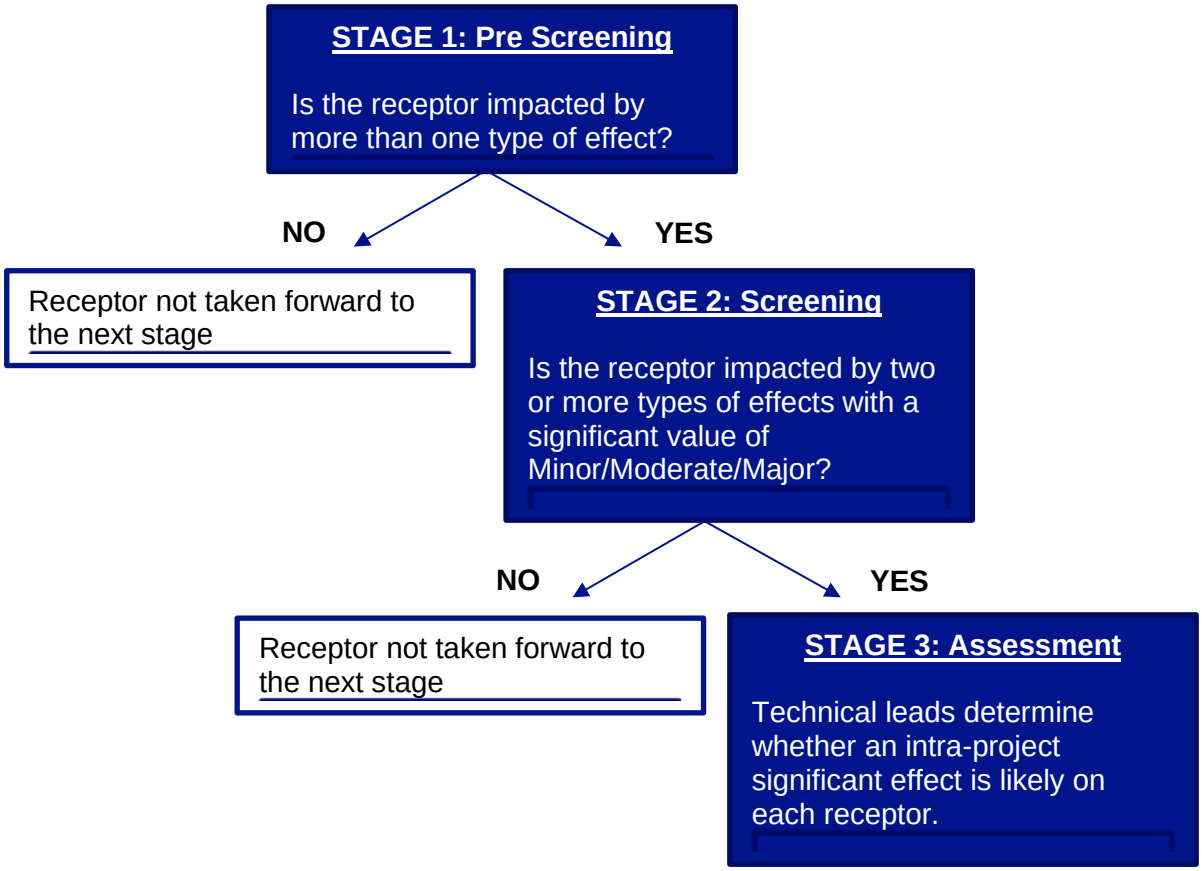
- **Volume 2, Part 1, Appendix 1.4.A: Outline Code of Construction Practice**;
- **Volume 2, Part 1, Appendix 1.4.F: Schedule of Environmental Commitments and Mitigation Measures;**
- **Volume 2, Part 1, Appendix 1.5.A: Cumulative Effects Methodologies**; and
- **Volume 2, Part 3, Appendix 3.13.A: Kent Onshore Scheme Intra-Project Cumulative Effects Screening Tables.**

3.13.1.5 Intra-project cumulative effects (sometimes referred to as combined or interactive effects) occur where a single receptor is affected by more than one source of effect arising from different aspects on the Proposed Project. An example of an intra-project effect would be where a local community is affected by dust, noise, and traffic disruption during the construction of the Proposed Project, with the result being a greater level of nuisance than each individual effect alone.

3.13.1.6 It is proposed to undertake the assessment of intra-project cumulative effects using a three-stage approach. The first stage consists of a pre-screening exercise to determine whether a receptor is exposed to more than one type of effect. Those receptors identified as experiencing more than one type of effect will be taken through to the second stage. The second stage will consist of a screening exercise to identify the significance each type of effect has on each receptor. Those receptors exposed to two or more types of effect, with a significance of effect greater than negligible, will be taken

forward to the third stage. The third stage is the main intra-project assessment, which will consider if the combination of effects is likely to lead to overall effects of greater significance. Image 3.13.1 presents this three-stage approach.

Image 3.13.1 Methodological approach to identifying intra-project cumulative effects



3.13.2 Assessment

Stage 1 – Kent Pre-Screening Assessment

3.13.2.1 The assessment considers residual effects only i.e., effects after the application of all mitigation including Control and Management Measures (Volume 2, **Appendix 1.4.A**), Embedded Mitigation and any additional mitigation listed within each topic chapter. Residual effects are presented in section 9 of each of the technical chapters in **Volume 1, Part 3 Chapters 2 to 12**.

3.13.2.2 Where this stage identifies that there was only one type of effect for a particular receptor, or only one topic had identified effects on that receptor, it is considered that there is no potential for an intra-project effect to occur and the receptor is not taken forward to screening stage 2.

3.13.2.3 The pre-screening assessments are summarised in Table 3.13.1 and presented in detail within **Volume 2, Part 3, Appendix 3.13.A: Kent Onshore Scheme Intra-Project Cumulative Effects Screening Tables**.

3.13.2.4 Where multiple types of effects are already considered within one chapter; the findings are not repeated in this chapter. This includes:

- **Part 3, Chapter 2: Landscape and Visual** which has identified all potential types of effects on landscape elements, therefore landscape receptors have not been considered in this intra-project cumulative effects assessment.

Table 3.13.1 Stage 1- Pre-Screening (shared receptors)

	Landscape and Visual	Ecology and Biodiversity	Cultural Heritage	Water Environment	Geology and Hydrology	Agriculture and Soils	Traffic and Transport	Air Quality	Noise and Vibration	Socio-Economics	Health and Wellbeing
Residential Receptors	■							■	■		
Ecological Receptors	■	■									
Designated Heritage Assets	■		■						■		
Designated Sites		■						■			
Watercourse and Waterbodies		■		■							
Soils					■	■		■			
Public Rights of way	■						■				■
Transport							■		■		
Human Health					■			■		■	■

Stage 1 Pre-screening summary

3.13.2.5 Receptors in the following groups were identified as having the potential for an intra-project effect as detailed in **Volume 2, Part 3, Appendix 3.13.A: Kent Onshore Scheme Intra-Project Cumulative Effects Screening Tables** and taken through to screening (stage 2) assessment.

- Residential Receptors;
- Ecological Receptors;
- Designated Heritage Assets;
- Designated Sites;
- Watercourse and Waterbodies;
- Soils;
- Public Rights of Way;
- Roads (users of); and
- Human Health.

Stage 2 – Screening Assessment

Introduction

3.13.2.6 Where a potential for an intra-project effect has been identified at stage 1 (pre-screening) the receptors are taken through to stage 2 (screening).

Stage 2-Screening assessment

3.13.2.7 This assessment identifies the preliminary residual effects for each receptor screened in, during stage 1.

3.13.2.8 As this preliminary assessment does not conclude a significance level (i.e., it reports only whether an effect is likely to be significant or not significant), all receptors where more than one type of effect is identified have been taken through to Stage 3.

3.13.2.9 The Stage 2 screening assessments are presented in **Volume 2, Part 3, Appendix 3.13.A: Kent Onshore Intra-Project Cumulative Effects Screening Tables**.

Stage 2- Screening assessment summary

3.13.2.10 All receptors where more than one type of effect is identified have been taken through to Stage 3.

Stage 3 - Preliminary Intra-Project Effects Assessment

Introduction

3.13.2.11 As this is a preliminary assessment and no predication has been made of the significance level within the individual topic chapters, at this stage only a qualitative comment has been provided.

Stage 3- Intra-project effects assessment

3.13.2.12 Each receptor that was taken through to the third stage was considered in turn, and using professional judgement a view was reached as to whether there would be a preliminary cumulative effect.

3.13.2.13 Not every effect on a given receptor applies in each project-stage. For instance, we may have residual (isolated) effects for construction and operation in the landscape and visual assessment for a road receptor, but only construction effects for noise on the same receptor, meaning no intra-project effects during operation on that receptor.

3.13.2.14 As part of the Environmental Statement (ES) the assessment will consider whether that effect would be of the same or greater significance than the constituent effects. Each receptor taken through to this stage will be considered in turn and using professional judgement a view reached as to whether there would be a likely cumulative effect and if so whether that effect would be of the same or greater significance than the constituent effects. Given that the types of effects are likely to be very different in some cases, a quantitative assessment is unlikely, and it will be necessary to apply professional judgement in determining the level of significance.

3.13.2.15 Table 3.13.2 presents the preliminary assessment of intra-project cumulative effects for the Kent Onshore Scheme.

Table 3.13.2 Preliminary assessment of intra-project cumulative effects

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
Residential Receptors	Construction, operation, maintenance and decommissioning	**Significant/ Not significant:** Temporary and permanent alteration to landscape character.	Overall, the intra-project cumulative effect was judged to potentially be **significant** as one of the effects was assessed as significant within its respective topic chapter.
		Not significant: Potential noise and vibration impacts at the construction and operation phases.	
		Not significant: Construction dust impacts.	
Ecological Receptors	Construction, operation, maintenance and decommissioning	**Not significant:** Temporary or permanent direct loss of landscape character.	Overall, the intra-project cumulative effect was judged to potentially be **significant** as one of the effects was assessed as significant within its respective topic chapter.
		Not significant: Temporary or permanent direct loss of habitats including within designated sites.	
		Not significant: Spillages and introduction of invasive species.	
		Not significant: Killing and injury of fauna.	
		Not significant: Shading impacts on riparian habitats during operation.	
		Not significant: Disturbance of birds and other fauna during operation.	
		Significant: Direct loss of bird habitat during construction or decommissioning, including functionally linked habitat.	
Designated Heritage Assets	Construction, operation, maintenance and decommissioning	**Not significant:** Temporary and permanent alteration to landscape character.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not significant: Impact to the setting of the monument.	
		Not significant: Potential noise impacts from construction activities.	
Designated Sites		**Not significant:** Direct loss of site	
		Not significant: Dust arising from trackout.	

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
	Construction, operation and decommissioning	**Not significant:** Increase in Nitrogen dioxide (NO2) and particulate matter	Overall, the intra-project cumulative effect was judged to be **not significant**.
Watercourse and Waterbodies	Construction and decommissioning	**Not significant:** Spillages and introduction of non-native species	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not significant: Pollution by silt, hydrocarbons and other construction materials at open cut watercourse crossings.	
		Not significant: Pollution risks from trenchless watercourse crossings.	
		Not significant: Temporary physical disturbance and change to flow regimes.	
		Not significant: Temporary deterioration of water quality due to project discharges.	
Soils	Construction	**Not significant:** Increased runoff rates and volumes, and impact on land drainage regime due to soil stripping, earthworks and excavations.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not Significant: Potential adverse effects of operations on soil resources.	
		Not Significant: Potential adverse effects of operations on agricultural soil resources.	
		Not Significant: Reduced air quality.	
Public Rights of Way	Construction, operation, maintenance and decommissioning	**Significant/ Not Significant:** Temporary and permanent alteration to landscape character.	Overall, the intra-project cumulative effect was judged to potentially be **significant** as one of the effects was assessed as significant within its respective topic chapter.
		Not significant: PRoW Diversions and Closures. Severance. Pedestrian Delay. Non-Motorised User Amenity. Fear and Intimidation.	
		Not significant: Potential permanent of either PRoW TE26 (K-P3) or PRoW EE42 (K-P4).	

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
		Not significant: Impact upon, the accessibility of PRoW and active travel networks.	
Transport	Construction	**Not significant:** Severance Pedestrian Delay Non- Motorised user Amenity Fear and Intimidation Driver Delay Road Safety Hazardous/Large Loads Diversions and Closures	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not significant: Potential impact due to increased road traffic noise due to increased construction traffic.	
		Not significant: Potential vibration impact from construction traffic.	
Human Health	Construction, operation, maintenance and decommissioning	**Not significant:** Exposure to existing potential contamination.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not significant: Ingress and accumulation of ground gas in buildings/confined spaces/trenches.	
		Not significant: Construction dust arising from trackout.	
		Not significant: Increase in NO2 and particulate matter.	
		Not significant: Access to community facilities, open spaces, development land or tourism attractions.	
		Not significant: Extra demand on social infrastructure due to construction workers.	
		Not significant: Increased traffic reducing accessibility to social infrastructure.	

3.13.3 Summary

3.13.3.1 Consideration has been given to the potential for various types of effects to affect the same receptor, a type of effect that is referred to as an 'intra-project effect' for the purposes of this assessment.

3.13.3.2 The preliminary assessment of intra-cumulative effects resulting from the Kent Onshore Scheme has been assessed in accordance with the methodology set out in **Volume 2, Part 1, Appendix 1.5.A: Cumulative Effects Methodologies**.

3.13.3.3 Shared receptors (receptors that are identified in more than one chapter) have been considered and a preliminary assessment of intra-project effects has been undertaken.

3.13.3.4 At Stage 1 (pre-screening) the shared receptors identified were residential receptors, ecological receptors, designated heritage assets, designated sites, watercourses and waterbodies, soils, public rights of way, transport and human health.

3.13.3.5 Stage 2 (screening) identified the preliminary residual effects for each receptor screened in, during stage 1 and provided a preliminary conclusion whether there is a potential for the Proposed Project to result in a significant intra-project effect. As this preliminary assessment does not conclude a significance level only whether an effect is likely to be significant or not significant, all receptors where more than one type of effect was identified were taken through to Stage 3 (assessment).

3.13.3.6 Residential receptors could experience noise, visual effects, and air quality effects. PRoW may also experience visual effects and temporary closures during the construction and operation phase of the Proposed Project. Ecological receptors may also experience direct loss and impacts from reduced air quality.

3.13.3.7 As part of the ES, the assessment will consider whether that effect would be of the same or greater significance than the constituent effects.

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