The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 1

Part 2 Suffolk Onshore Scheme

Chapter 13 Suffolk Onshore Scheme Intra-Project Cumulative Effects

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2.13 Suffolk Onshore Scheme Intra Project Cumulative Effects

2.13.1 Introduction

2.13.1.1 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.**

2.13.1.2 The draft Order Limits, which illustrate the boundary of the Proposed Project, are illustrated on **Figure 1.1.1 Draft Order Limits** and the Suffolk Onshore Scheme Boundary is illustrated on **Figure 1.1.2 Suffolk Onshore Scheme Boundary**.

2.13.1.3 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 4, Chapter 1: Evolution of the Project in Suffolk**.

2.13.1.4 This chapter is supported by the following appendices:

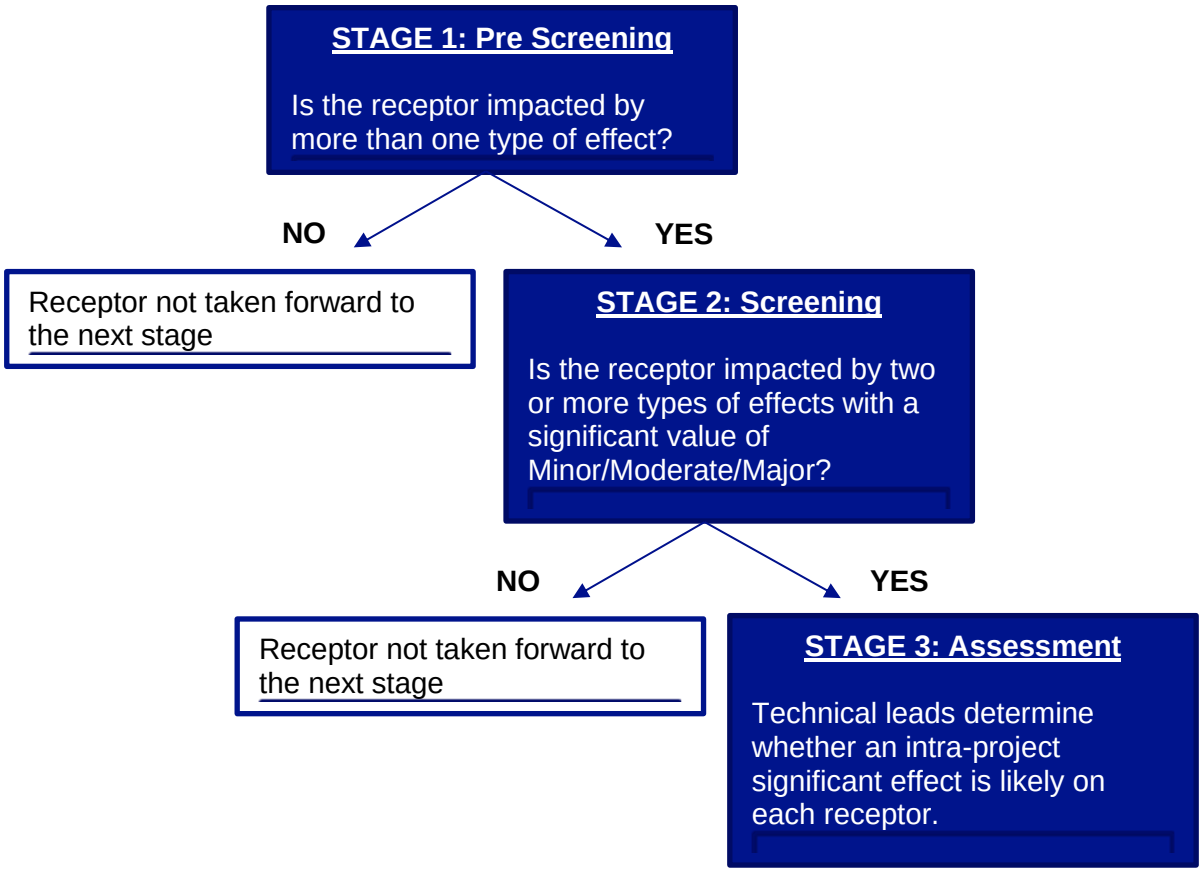
- **Volume 2, Part 1, Appendix 1.4.A: Outline Code of Construction Practice**;
- **Volume 2, Part 1, Appendix 1.4.F: Outline Schedule of Environmental Commitments and Mitigation Measures;**
- **Volume 2, Part 1, Appendix 1.5.A: Cumulative Effects Assessment Methodologies**; and
- **Volume 2, Part 2, Appendix 2.13.A Suffolk Onshore Scheme Intra-Project Cumulative Effects Screening Tables.**

2.13.1.5 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.

2.13.1.6 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 2.13.1 presents this three-stage approach.

Image 2.13.1 Methodological approach to identifying intra-project cumulative effects



2.13.2 Assessment

Stage 1 – Suffolk Pre-Screening Assessment

2.13.2.1 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 2, Chapters 2 to 12**.

2.13.2.2 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.

2.13.2.3 The pre-screening assessments are summarised in Table 2.13.1 and presented in detail within **Volume 2, Part 2, Appendix 2.13.A Suffolk Onshore Scheme Intra-Project Cumulative Effects Screening Tables**.

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

- **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.
- **Chapter 5: Water Environment** which has all potential types of effects on watercourses, waterbody, and flood risk receptors, therefore these receptors have not been considered in this intra-project cumulative effects assessment.

Table 2.13.1. 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	■							■	■		
Roads	■						■		■		
Ecological Receptors		■						■			
Designated/ Non-designated sites		■	■					■			
Water Resources (Existing Abstractions)				■	■						
Soils				■	■	■		■			
Public Rights of Way	■						■			■	■
Cycle Routes							■			■	
Human Health					■			■	■	■	■

Stage 1 Pre-screening summary

2.13.2.5 Receptors in the following groups were identified as having the potential for an intra-project effect as detailed in **Appendix 2.13.A Suffolk Onshore Scheme Intra-Project Cumulative Effects Screening Tables** and taken through to screening (stage 2) assessment.

- Residential Receptors;
- Roads (users of);
- Ecological Receptors;
- Designated/ Non-Designated Sites;
- Water Resources (Existing Abstractions);
- Soils;
- Public Rights of Way;
- Cycle Routes; and
- Human Health.

Stage 2 – Screening Assessment

Introduction

2.13.2.6 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

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

2.13.2.8 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.

2.13.2.9 The Stage 2 screening assessments are presented in **Volume 2, Part 2, Appendix 2.13.A Suffolk Onshore Intra-Project Cumulative Effects Screening Tables**.

Stage 2- Screening assessment summary

2.13.2.10 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

2.13.2.11 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

2.13.2.12 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.

2.13.2.13 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.

2.13.2.14 As part of the 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.

2.13.2.15 Table 2.13.2 presents the preliminary assessment of intra-project cumulative effects for the Suffolk Onshore Scheme.

Table 2.13.2 Preliminary assessment of intra-project cumulative effects

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
Residential Receptors	Construction and operation	**Significant:** Temporary and permanent alteration to visual amenity the Proposed Project.	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 chapters.
		Not Significant: Reduced air quality.	
		Not Significant: Increased noise and vibration disturbance.	
Roads (users of)	Construction, operation and decommissioning	**Significant:** Temporary and permanent alteration to visual amenity from the Proposed Project.	Overall, the intra-project cumulative effect was judged to potentially be **significant** as two effects were assessed as significant within their respective topic chapters.
		Not Significant: Fear and intimidation, hazardous large loads, and diversions / closures.	
		Significant: Severance, Pedestrian Delay, Non-Motorised User Amenity, Driver Delay and Road Safety.	
		Not Significant: Increased noise and vibration disturbance.	
Ecological Receptors	Construction, operation and decommissioning	**Significant/ Not Significant:** Direct loss and disturbance to ecological receptors.	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: Reduced air quality.	
Designated/ Non-Designated Sites	Construction and decommissioning	**Not significant:** Direct loss of site.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not significant: Loss of archaeological remains.	

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
		Not Significant: Reduced air quality.	
Water Resources (existing abstractions);	Construction	**Not Significant:** Temporary deterioration of water quality.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not Significant: Changes to groundwater levels, quality and groundwater flow direction.	
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:** Temporary and permanent alteration to visual amenity from the Proposed project.	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: Fear and intimidation, hazardous large loads, and diversions / closures, Severance, Pedestrian Delay, Non-Motorised User Amenity, Driver Delay and Road Safety.	
		Not Significant: Temporary closure resulting in changes in access to	

Receptor	Project Phase	Residual Significance of Effects	Preliminary Intra-Project Cumulative Effect?
		the wider Public Rights of Way (PRoW) network.	
		Not Significant: Accessibility of PRoW and active travel networks.	
Cycle Routes	Construction	**Not Significant**: Fear and intimidation, hazardous large loads, and diversions / closures, Severance, Pedestrian Delay, Non-Motorised User Amenity, Driver Delay and Road Safety.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not Significant: Temporary closure resulting in changes in access to the wider PRoW network.	
Human Health	Construction, operation, maintenance, and decommissioning	**Not Significant:** Exposure to existing potential contamination and accumulation of ground gas in buildings.	Overall, the intra-project cumulative effect was judged to be **not significant**.
		Not Significant: Reduced air quality.	
		Not Significant: Potential noise and vibration.	
		Not Significant: Access to community facilities, open spaces, development land or tourism attractions.	
		Not Significant: Extra demand on social infrastructure during construction.	

2.13.3 Summary

2.13.3.1 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.

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

2.13.3.3 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.

2.13.3.4 At stage 1 (pre-screening) the shared receptors identified were residential receptors, roads (users of), ecological receptors, designated/ non-designated sites, water resources (existing abstractions), soils, public rights of way, cycle routes, and human health.

2.13.3.5 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).

2.13.3.6 Residential receptors could experience noise, visual effects, and air quality effects, with impacts related to roads could include the traffic related impacts and well as visual 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.

2.13.3.7 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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