The Great Grid Upgrade

Eastern Green Link 5 (EGL 5)

Preliminary Environmental Information Report

Volume 1
Part 2
Chapter 13 Noise and Vibration

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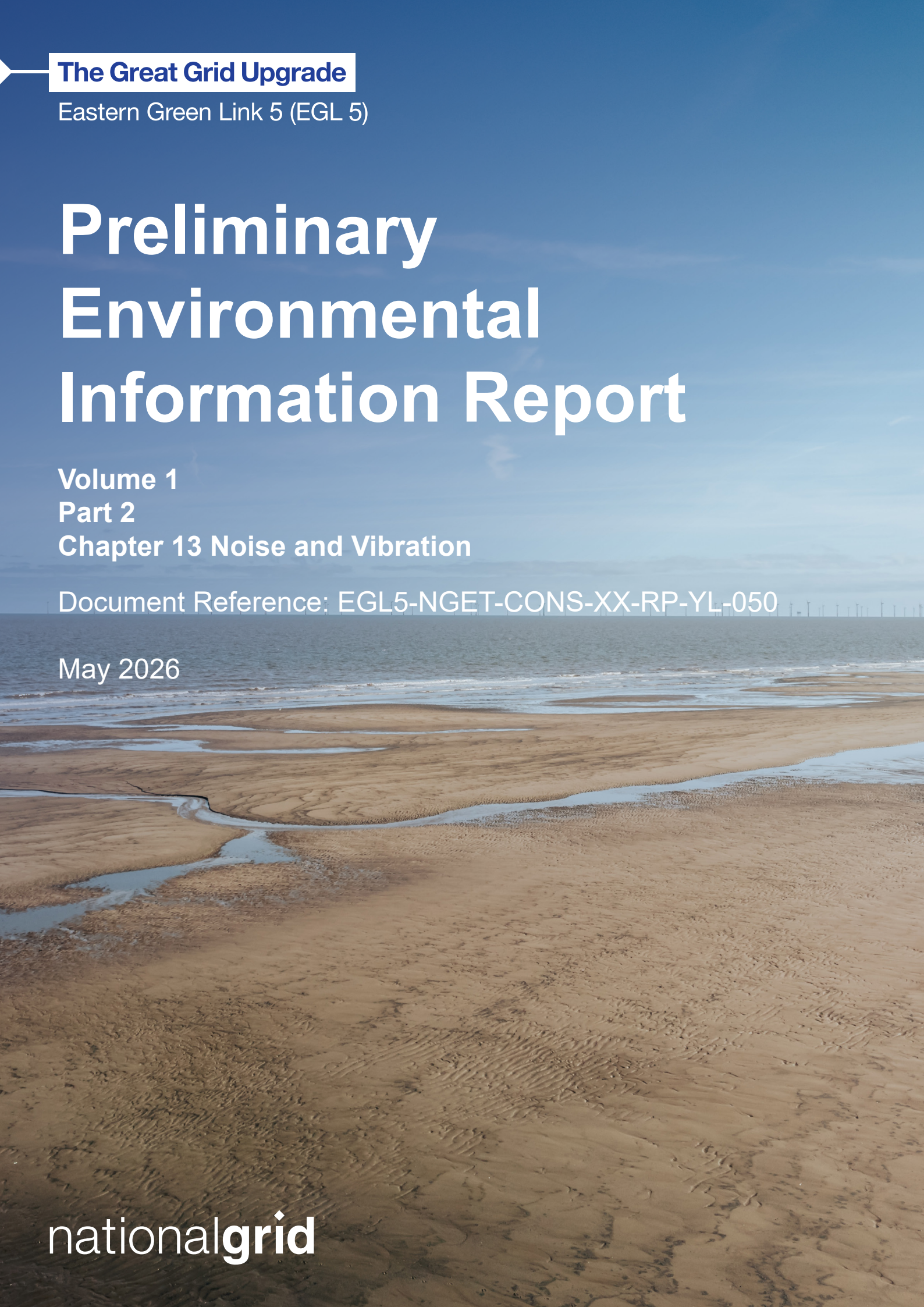

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13. Noise and Vibration

13.1 Introduction

13.1.1 This chapter presents the preliminary findings of the Environmental Impact Assessment (EIA) undertaken to date for the Eastern Green Link (EGL) 5 English Onshore Scheme, with respect to Noise and Vibration. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the description of the Project provided in **Volume 1, Part 1, Chapter 4: Description of the Project**.

13.1.2 This chapter describes the methodology used, the datasets that have informed the preliminary assessment, current baseline conditions, current environmental measures, and the preliminary Noise and Vibration effects that could result from the English Onshore Scheme during the construction and operational (and maintenance) phases. Decommissioning activities associated with the Project will be considered as part of the ES as information becomes available. Specifically, it relates to the English Onshore elements of EGL 5 (the English Onshore Scheme) landward of Mean Low Water Springs (MLWS).

13.1.3 This chapter should be read in conjunction with, and considered alongside, the following technical chapters found in **Volume 1**:

- **Volume 1, Part 2, Chapter 6: Biodiversity:** Consideration of noise and vibration effects relating to construction activities across the English Onshore Scheme and operational noise of the converter station on ecological receptors including designated sites;
- **Volume 1, Part 2, Chapter 7: Cultural Heritage:** Consideration of noise and vibration effects relating to construction activities across the English Onshore Scheme and operational noise of the converter station on Cultural Heritage Receptors including both inhabited and uninhabited buildings and monuments as advised by the Cultural Heritage Team;
- **Volume 1, Part 2, Chapter 8: Landscape and Visual Amenity:** Consideration of noise and vibration effects relating to construction activities across the English Onshore Scheme and operational noise of the converter station on public open spaces, footpaths and Area of Outstanding Natural Beauty (AONB)s / designated sites;
- **Volume 1, Part 2, Chapter 12: Traffic and Transport:** Consideration of the effects of road traffic associated with the English Onshore Scheme to noise and vibration receptors;
- **Volume 1, Part 2, Chapter 16: Health and Wellbeing:** Consideration of noise and vibration effects relating to construction activities across the English Onshore Scheme and operational noise of the converter station relating to public health and wellbeing; and
- **Volume 1, Part 4, Chapter 27: Cumulative Effects:** Consideration has been given to the potential for inter-project cumulative effects noise and vibration effects from other planned developments in the vicinity where proximity and / or timing dictate.

13.1.4 This chapter is supported by the following figures in **Volume 3:**

- **Part 2, Figure 13-1: Construction Study Area;** and
- **Part 2, Figure 13-2: Operational Study Area.**

13.1.5 This chapter is supported by the following appendices in **Volume 2:**

- **Part 1, Appendix 2.A: Regulatory and Planning Context;**
- **Part 1, Appendix 5.A: Outline Register of Design Measures;**
- **Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP);** and
- **Part 2, Appendix 13.A: Construction Plant Assumptions.**

Limitations

13.1.6 The information provided in this Preliminary Environmental Information Report (PEIR) is qualified as preliminary, the final assessment of significant effects will be reported in the Environmental Statement (ES). The PEIR has been produced to fulfil National Grid Electricity Transmission plc (NGET)'s consultation duties in accordance with Section 42 of the PA2008 and enable consultees to develop an informed view of the potential preliminary significant effects of the English Onshore Scheme.

13.1.7 The following limitations have been identified that will form the basis of this PEIR. The key parameters and assumptions related to the noise and vibration assessment are set out in Section 13.8:

- The construction noise that is assessed within the scope of this PEIR is based on the evolution of the construction information at the time of drafting. The construction methodology will continue to develop as the design develops until the design freeze supporting the ES submission. The DCO will take account of and accord with this updated information relating to the specifics of the construction methods and programme. This is specifically the case with movements along the English Onshore Scheme on site constructed haul roads, which are yet to be fully defined.
- At the time of the production of the PEIR, dominimum traffic count information is not available for all links associated with construction traffic movements. For these links, forecast increases in traffic due to construction of the Project have not been calculated. Automatic Traffic Count (ATC) data for these links will be available for the ES, and all links will be reassessed based on the latest construction traffic forecasts. As a result, a quantitative assessment of changes in road traffic noise associated with construction traffic has not been undertaken at PEIR stage. The PEIR therefore identifies construction traffic noise as a matter requiring further assessment, rather than presenting a final assessment of potential road traffic noise effects. The assessment will be completed at ES stage, informed by the ATC data and the latest construction traffic forecasts. The ES will assess the potential acoustic impacts of construction traffic on the existing highway network and, where necessary, identify appropriate mitigation measures.
- At the time of drafting, the design evolution of the proposed new converter station is not sufficiently advanced to allow for the full detailed modelling and assessment of the static plant aspects of the English Onshore Scheme to form part of this PEIR. However, this will form part of the ES for the English Onshore Scheme referencing the appropriate design specifics supplied by NGET.

- Baseline noise surveys are necessary as part of the noise assessment to determine baseline noise levels at sensitive receptors near the proposed new converter station. These surveys have not been undertaken at the time of this PEIR due to the maturity of the design. Monitoring protocols and methods will be defined based on external factors such as land access and equipment safety and would be subject to consultation with East Lindsey District Council as the relevant local planning authority. The baseline noise levels will be reported and used within the assessment informing the ES.

Preliminary significance conclusions

13.1.8 For ease of reference, a summary of the potentially significant effects from the preliminary noise and vibration assessment is provided in **Table 13-1** below**.**

13.1.9 All other aspects of the noise and vibration assessment requiring consideration, as agreed with Planning Inspectorate through the Scoping process, have been concluded as not significant. Further details of the methodologies behind the assessments, and a detailed narrative of the assessments themselves are provided in the sections below.

Table 13-1 Preliminary summary of significance of effects

Receptor and summary of predicted effects	Sensitivity / importance / value of receptor	Magnitude of change[1]	Significance[2]	Summary rationale
Construction				
Construction noise	Not specified under Acoustic Scope, all receptors hold same sensitivity and value.	With the implementation of Best Practicable Means (BPM) secured through mechanisms in the DCO including **Volume 2, Part 1, Appendix 5.B: Outline CoCP** submitted in support of the DCO application, **no significant construction noise effects are anticipated**. Full details of the assessments, are provided in Section 13.10.		
Construction vibration	Not specified under Acoustic Scope, all receptors hold same sensitivity and value.	With the implementation of BPM secured through mechanisms in the DCO including the **Volume 2, Part 1, Appendix 5.B: Outline CoCP** submitted in support of the DCO application, **no significant construction vibration effects are anticipated.** Full details of the assessments, are provided in Section 13.10.		
Operation				
Operational Noise associated with all identified plant within the proposed converter station	Not specified under Acoustic Scope, all receptors hold same sensitivity and value.	At this design stage, limited information is available, and significant aspects of the proposed new converter station design are still to be concluded. As such, a detailed assessment of operational noise impacts cannot be presented as part of the PEIR. As the design and information evolves relating to this feature of the English Onshore Scheme, the assessment of noise will be concluded and subsequently reported in the ES.		

1. The magnitude of change on a receptor resulting from activities relating to the development is defined using the criteria set out in Section 13.8 and is defined as [negligible, minor, moderate and major].
2. The significance of the environmental effects is based on the combination of the sensitivity/importance/value of a receptor and the magnitude of change and is expressed as major (significant), moderate (potentially significant) or minor / negligible (not significant), subject to the evaluation methodology outlined in Section 13.8.

13.2 Relevant Technical Guidance

13.2.1 Appropriate Legislation and Planning Policy which has informed the assessment of effects with respect to Noise and Vibration is provided within **Volume 2, Part 1, Appendix 2.A: Regulatory and Planning Context**.

13.2.2 Further information on Policies relevant to the English Onshore Scheme is provided in **Volume 2, Part 2, Chapter 2: Regulatory and Policy Overview**.

13.2.3 Relevant technical guidance specific to Noise and Vibration used to inform this PEIR, which will also be used within the assessment supporting the ES, are summarised below.

Technical guidance

13.2.4 A summary of the technical guidance for the noise and vibration assessment is given in **Table 13-2**.

Table 13-2 Technical guidance relevant to the noise and vibration assessment

Technical guidance document	Context
BS 4142:2014+A1:2019, Methods for rating and assessing industrial and commercial sound (herein referred as BS 4142) (Ref 13.1)	The standard is used to rate and assess sound of an industrial nature including, but not limited to, assessing sound from proposed, new, modified or additional sources of industrial sound, and sound at proposed new dwellings. The guidance contains direction on monitoring and assessment of industrial and commercial sound sources (including fixed installations comprising mechanical and electrical plant and equipment) and how these can affect sensitive receptors.
BS 5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Noise' (herein referred as BS 5228-1) (Ref 13.2)	Provides guidance on the prediction and assessment of noise from construction sites along with ways to control noise. The guidance further presents suggestions for the derivation of threshold values for impact assessment.
BS 5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Vibration' (herein referred as BS 5228-2) (Ref 13.3)	Provides guidance on the prediction and assessment of vibration from construction sites along with ways to control vibration. The guidance further presents suggestions for the derivation of guideline values for impact assessment.
BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures (Ref 13.4)	This part of BS 7445 defines the basic quantities to be used for the description of noise in community environments and describes basic procedures for the determination of these quantities. The methods and procedures described in this British Standard are intended to be applicable to sounds from all

Technical guidance document	Context
	sources, individually and in combination, which contribute to the total noise at a site.
Calculation of Road Traffic Noise (CRTN) 1988 (Ref 13.5)	Describes the UK methodology for the calculation of road traffic noise and the propagation of such into the environment.
Design Manual for Roads and Bridges (DMRB) LA 111: Noise and Vibration (National Highways, 2020) (Ref 13.6)	Guidance document which provides a methodology for the assessment of noise from road traffic, particularly from new and altered roads. Also provides modifications to CRTN (Ref 13.6) and a methodology for the assessment of noise and vibration from construction traffic.
Institute of Environmental Management and Assessment (IEMA), Guidelines for Environmental Noise Impact Assessment (Ref 13.7)	Presents guidelines on how the assessment of noise effects should be presented within the Environmental Impact Assessment (EIA) process. The IEMA guidelines cover aspects such as; scoping, baseline, prediction and example definitions of significance criteria.
ISO 9613-2:2024 Acoustics Attenuation of sound during propagation outdoors Part 2: Engineering method for the prediction of sound pressure levels outdoors (Ref 13.8)	Defines a method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at distances from a source.
National Planning Practice Guidance (Ref 13.9)	Guidance relating to the processes and tools that can be used through the planning system in England. It includes guidance relating to how planning can manage potential noise effects in new development.
BS 7385-2:1993, Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration (Ref 13.10)	Guidance on the levels of ground borne vibration which could have the potential to lead to the damage of building structures.
National Planning Practice Guidance (Ref 13.11)	Guidance relating to the processes and tools that can be used through the planning system in England. It includes guidance relating to how planning can manage potential noise effects in new development

13.3 Consultation and Engagement

Overview

13.3.1 The assessment of Noise and Vibration has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in Section 5.9 of **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**.

Scoping Opinion

13.3.2 A Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on the 13 October 2025 (Ref 13.12). A summary of the relevant responses received in the Scoping Opinion in relation to noise and vibration, and confirmation of how these have been addressed within the assessment to date, is presented in **Table 13-3**.

13.3.3 The information provided in the PEIR is preliminary and not all of the Scoping Opinion comments have been addressed or fully considered at this stage, however all comments will be addressed within the ES.

Table 13-3 Summary of EIA scoping opinion responses for noise and vibration

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate (ID: 3.8.1)	**Noise generated by construction traffic on motorway routes.** This matter is proposed to be scoped in for receptors within 50 m of construction traffic routes where there would be an increase in noise of 1 decibel (dB) (A) or more, other than motorways. For motorways Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report the construction traffic would not significantly alter flows. The Inspectorate agrees that increased construction traffic on motorways is unlikely to result in significant effects and is content that this matter can be scoped out of further assessment.	This aspect has been scoped out and will not form part of this PEIR or future ES assessments.
Planning Inspectorate (ID: 3.8.2)	**Vibration from activities other than piling and ground stabilisation, including on site haul roads during construction.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report states that it is unlikely that sensitive receptors would be disturbed by vibration from general construction at distances of 20 m or more based on guidance in Transport and	Where preliminary construction information and methodologies are available, prediction and assessment of construction vibration effects have been undertaken as part of this PEIR and will inform and develop within the following ES process.

Consultee	Consideration	How addressed in this PEIR
	Road Research Laboratory Supplementary Report 328 (Ref 13.13). Information on plant to be used has not been provided nor have details of construction methods. Based on the information provided, the Inspectorate does not agree to scope this matter out of further assessment. The ES should include an assessment of these matters, or information demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.	As the information supporting the English Onshore Scheme is still evolving where this assessment is not contained within this PEIR it will be contained within the ES. Furthermore, detailed consultation and discussion on the assessment of construction noise and vibration will be undertaken with the relevant local authority through the ES production.
Planning Inspectorate (ID: 3.8.3)	**Vibration from traffic on existing highways during construction.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report proposes to scope out an assessment of vibration from construction traffic on the basis that significant effects are not expected assuming that road surfaces are free from irregularities. The Inspectorate agrees that vibration from traffic during construction is unlikely to result in significant effects and is content that this matter can be scoped out of further assessment.	This aspect has been scoped out and will not form part of this PEIR or future ES assessments.
Planning Inspectorate (ID: 3.8.4)	**Noise from traffic associated with the converter station during operation.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report proposes to scope this matter out on the basis that the converter station would not generate levels of road traffic noise that would change the current noise level by more than 1 dB(A). On the basis that road traffic associated with operational maintenance of the converter station would not result in a noise increase from baseline conditions of more than 1 dB(A), the Inspectorate agrees that significant effects from maintenance of the converter station are unlikely to occur. However, the ES should clarify the anticipated number and routeing of	Where operational information and methodologies are available supporting the project, prediction and assessment of the number and routeing of vehicle movements associated with the operation of the proposed converter station will inform the ES process.

Consultee	Consideration	How addressed in this PEIR
	road vehicle movements during operation of this component.	
Planning Inspectorate (ID: 3.8.5)	**Noise from underground onshore cables during operation.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report proposes to scope out an assessment of noise from underground cables during operation as undergrounding mitigates to the point it would not be audible above ground. The Inspectorate agrees that noise from the operation of the underground cable is unlikely to result in significant effects and is content that this matter can be scoped out of further assessment.	This aspect has been scoped out and will not form part of this PEIR or future ES assessments.
Planning Inspectorate (ID: 3.8.6)	**Vibration associated with static plant at the converter station during operation.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report proposes to scope out an assessment of vibration from static plant at the proposed converter station during operation on the basis that it would be mounted on suitable anti-vibration mounts to eliminate vibration. The Inspectorate agrees that vibration from static plant during operation is unlikely to result in significant effects and is content that this matter can be scoped out of further assessment.	This aspect has been scoped out and will not form part of this PEIR or future ES assessments.
Planning Inspectorate (ID: 3.8.7)	**Noise and vibration associated with maintenance of the underground onshore cables and converter station during operation.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report proposes to scope this matter out on the basis that maintenance activities are likely be infrequent, localised and short term, and would follow standard measures to reduce effects, and so significant effects are not expected. The Inspectorate agrees that noise and vibration associated with maintenance of	Where operational information and methodologies are available, the ES will include a description of anticipated maintenance activities, the proposed mitigation measures to minimise their effects, and confirmation of how these measures will be secured.

Consultee	Consideration	How addressed in this PEIR
	underground cables and the converter station during operation are unlikely to result in significant effects and is content that this matter can be scoped out of further assessment. The ES should describe the expected maintenance activities and any measures proposed to mitigate effects arising from these (refer to ID 3.8.9); it should confirm how the mitigation would be secured. ID Ref Description Inspectorate's comment.	
Planning Inspectorate (ID: 3.8.8)	**Baseline noise for construction assessment.** Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report states that the construction noise assessment would be undertaken from the lower noise threshold (Category A) in British Standard (BS) 5228-1 for a rural setting unless there is a justification for a higher threshold for example via noise survey or Defra noise mapping at specific locations. The Inspectorate notes that baseline noise surveys are proposed at the converter station but not along the onshore underground cable routes. In the absence of baseline survey, the Inspectorate advises that the lower noise threshold should be used as the baseline for assessment of construction impacts along the underground cable route to provide a worst-case assessment.	The lower noise threshold (Category A) in British Standard (BS) 5228-1 (Ref 13.2) will be used in the construction noise assessment as presented in Section 13.9 of this PEIR, and as part of the future ES. Furthermore, during the consultation proposed with the relevant local authority as part of the production of the ES matters relating to this will be consulted upon and discussed, with the intention of seeking agreement on the scope and remit of the surveys.
Planning Inspectorate (ID: 3.8.9)	**Noise associated with operational traffic for maintenance of infrastructure components other than the converter station.** The Inspectorate notes that Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report seeks to scope out operational traffic noise associated with the converter station (see ID 3.8.4 of this Opinion) but is silent in respect of operational traffic noise associated with maintenance of other components such as the underground cable and offshore cable. The ES should include an assessment of these matters, or it should set out information demonstrating	This aspect is not currently addressed within this PEIR as a result of the currently available information and the maturity of the design; however, the ES will consider this further and include information demonstrating agreement with the relevant consultation bodies.

Consultee	Consideration	How addressed in this PEIR
	agreement with the relevant consultation bodies that this matter can be scoped out of assessment and the absence of likely significant effects.	

Technical engagement

13.3.4 As part of the ES production, consultation and engagement will continue with the following key stakeholders relating to noise and vibration, in order to discuss the proposed assessment methodologies and specifics of the study:

- Lincolnshire County Council; and
- East Lindsey District Council.

13.3.5 Ongoing technical engagement with consultees regarding noise and vibration will be maintained throughout the ES assessment process. This engagement will aim to reach agreement on the locations and durations of baseline noise surveys to inform the operational assessment of the proposed converter station, as well as the proposed scope and methodologies for assessing noise and vibration impacts during both the construction and operational phases of the English Onshore Scheme.

13.4 Data Gathering Methodology

Study Areas

13.4.1 A number of specific study areas for the assessment of noise and vibration have been defined as part of the PEIR. These will potentially be redefined as part of the ES as more specific information emerges and designs progress.

13.4.2 These study areas have been defined in accordance with appropriate guidance as set-out below and using the available information informing the PEIR. Through the ES process the scope of the study areas will be further defined, and relevant stakeholders will be consulted, as noted in Section 13.3.

13.4.3 This section sets out the methodology and approach to selecting the appropriate study areas for the construction and operational assessments for the purposes of the production of the PEIR.

13.4.4 The study areas defined within the scope of the noise and vibration assessments presented within this PEIR are presented within the following figures:

- **Volume 3, Part 2, Figure 13-1: Construction Study Area;** and
- **Volume 3, Part 2, Figure 13-2: Operational Study Area.**

Construction Noise

13.4.5 For the assessment of construction noise, the study area has been defined based on guidance contained within BS 5228-1 (Ref 13.2) to comprise the closest Noise Sensitive Receptors (NSRs) within 300 m from the indicative zone for temporary construction works associated with the English Onshore Scheme including on site haulage routes. This are further detailed on **Volume 3, Part 2, Figure 13-1: Construction Study Area**.

13.4.6 However, because of the nature of the area being predominantly open and flat, and sparsely populated; where there are no receptors within 300 m of the works, this has been augmented by professional judgement to extend the boundary where specific circumstances dictate. This will be considered and specified through consultation with the Local Planning Authority (LPA).

Construction Vibration

13.4.7 The proposed study area for construction vibration, has been defined within the PEIR based on the guidance of BS 5228-2 (Ref 13.3) and comprises vibration sensitive receptors (VSRs) within 100 m from the closest construction activities with the potential to generate vibration. This are further detailed on **Volume 3, Part 2, Figure 13-1: Construction Study Area**.

Construction Traffic Noise

13.4.8 Road traffic noise from construction vehicles on the existing road network will be assessed as part of the ES for each applicable construction traffic road link affected, based on the peak activity year traffic data. Within the ES this relevant peak year will be assessed as informed by the traffic information.

Operation

13.4.9 The proposed study area for operational noise is limited to the static above-ground infrastructure associated with the English Onshore Scheme, namely the proposed new converter station located north-east of Bilsby.

13.4.10 To identify the closest noise sensitive receptors to the static above ground infrastructure, an operational study area of 1 km from the indicative zone for the proposed new converter station has been applied.

Desk study

13.4.11 A summary of the information and data informing this PEIR, together with the organisations that have supplied said data, along with the nature of that data, is outlined in **Table 13-4**.

Table 13-4 Data sources used to inform the noise and vibration assessment

Organisation	Data source	Data provided
Ordnance Survey (OS).	AddressBase Core (Ref 13.14).	Address point data for the identification of noise sensitive receptors.
Ordnance Survey (OS).	OS Open Mapping (Ref 13.15).	Mapping data for the noise and vibration assessment.
British Standard Institute.	BS 5228-1: 2009+A1:2014 (Ref 13.2).	Noise data for use in the construction noise and vibration predictions.
Department for Environment, Food & Rural Affairs (Defra).	Strategic noise map data (Ref 13.16).	Road traffic noise levels from existing highways.

Survey work

13.4.12 To date, no site surveys have been undertaken in support of the noise assessment. However, noise surveys are currently planned to be undertaken later in 2026 to inform the ES within the operational noise study area of the proposed converter station. The noise surveys would be consulted with the LPAs along the English Onshore Scheme relating to durations and specifics of the surveys in advance.

13.4.13 Baseline noise surveys for the English Onshore Scheme would be conducted in accordance with the methodology described in BS 7445-1:2003 (Ref 13.5).

13.4.14 The sound level meters would measure a range of parameters to inform the assessment of the various elements of the Project including the following:

- $L_{Aeq,\ T}$ – The A-weighted equivalent continuous sound pressure level over the measurement period T, representative of the 'average' sound pressure level over a given period, in this case 15 minutes.
- $L_{A10,\ T}$ – The noise level that is exceeded for 10% of the measurement period and is usually regarded as a descriptor of road traffic noise.
- $L_{A90,\ T}$ – The noise level that is exceeded for 90% of the measurement period and is usually regarded as a descriptor of the background noise level.
- $L_{A,max}$ – The maximum A-weighted noise level during the sample period, measured using a fast time weighting.

13.4.15 The measurement periods and durations would be consulted upon with the LPAs, and would be undertaken by methods including:

- Unattended long-term surveys for up to seven days; and
- Attended short duration surveys for key weekday and weekend time periods.

13.4.16 Unattended surveys would be subject to the safety of equipment and land access limitations.

13.4.17 The baseline surveys will be reported as part of the ES.

13.5 Overall Baseline

Current baseline

13.5.1 To inform the PEIR, based upon the information contained on the Defra Noise Mapping (Ref 13.16) of the UK and a review of commercial aerial photography of the English Onshore Scheme route, a description of the baseline noise climate of the area is provided below.

13.5.2 It is noted that vibration is assessed on the basis of absolute thresholds, as a result of this and the nature of the route corridor, existing baseline vibration is not a consideration.

13.5.3 The draft Order Limits predominantly encompasses a rural setting, with aspects coming close to urban areas, but avoiding them where possible through design. The general description of the area concludes minimal large infrastructure, with no motorways or mainline railways present within the draft Order Limits. There are local transportation routes identified within the draft Order Limits which will affect the noise climate, namely:

- A Roads (main trunk roads): A52 (Sutton Road), A1104 (East Street), A1111 (Bilsby Road), A1111 (Alford Road), B1449 (Thurlby Road); and
- B Roads and Minor Roads (lower traffic flows than the main trunk roads): B1111, Alford Road, Bilsby Road, Church Street, East Street, Hamilton Road, High Street, Long Lane, Mumby Road, South Street, Station Road, Sutton Road, Thurlby Road, West Street, Willoughby Road.

13.5.4 No railway lines are located within the English Onshore Scheme draft Order Limits.

13.5.5 The general conclusion for the baseline noise climate of the English Onshore Scheme, drawn from the subjective consideration of the above referenced information, is a noise climate typical of a rural setting. The Defra noise maps for the area demonstrate elevated road traffic noise levels around main roads, with this generally reducing to below 40 dB $L_{Aeq,16hr}$ with increasing distance from these sources.

13.5.6 It is appreciated that the Defra noise maps do not contain all noise sources along the English Onshore Scheme and are limited to highway and rail infrastructure sources. However, the Defra noise maps provide a good indication of what the current noise climate could be for the purposes of this PEIR. Further consideration of the baseline noise climate will form part of the ES, concluded in consultation with the LPAs along the English Onshore Scheme.

Future baseline

13.5.7 In the absence of the English Onshore Scheme, it is expected that road traffic noise will steadily increase due to the natural growth in road traffic flows over time.

13.5.8 Traffic growth will be reflected within the construction traffic noise assessment, with future traffic conditions being modelled taking this traffic growth into account as well as the construction traffic flows. Ongoing engagement with the LPA will also identify any potential developments which could also contribute to increases in future baseline noise, and these would be accounted for in the assessments where appropriate.

13.5.9 It is recognised that there are a number of other proposed and committed developments within the surrounding area that could alter the future baseline in the absence of the project. These include major strategic transmission projects such as Grimsby to Walpole, Eastern Green Link 3 and 4, and the Ossian Transmission Infrastructure, which overlap with the Order Limits. While Ossian Transmission Infrastructure has been withdrawn for now, it has been retained in the cumulative assessment at this stage as it may be brought forward again in the future. Other developments include nearby consented and proposed developments such as the Outer Dowsing Offshore Wind Farm and the Theddlethorpe Flexible Generation Project. In addition, local residential developments (e.g. up to 335 dwellings at Southfield Farm, Louth) may also influence future traffic flows and associated noise levels. The potential for inter-project cumulative effects will be considered as part of the EIA process, according to the approach outlined within **Volume 1, Part 4, Chapter 27: Cumulative Effects.**

13.6 Environmental Measures

13.6.1 As set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, the environmental measures are characterised as design measures or control and management measures. A range of environmental measures would be implemented as part of the English Onshore Scheme and will be secured in the DCO as appropriate.

13.6.2 **Table 13-5** outlines how these design and control measures will influence the noise and vibration assessment. In addition to the construction and operational measures listed in **Table 13-5**, standard construction mitigation measures, comprising management activities and techniques under BPM, would be implemented during the construction of the Project to limit effects, including adoption of good site practices and achieving legal compliance.

Table 13-5 Summary of the environmental measures

Receptor	Potential changes and effects	Environmental measures	Compliance mechanism	ID reference
Construction				
All noise sensitive receptors within 300 m of the indicative zone for underground cable assets	Potential adverse effects from construction noise from mobile and static plant along the construction route and within compound areas.	BPM as defined under Section 72 of the Control of Pollution Act (CoPA) 1974 (Ref 13.19) (e.g. screening, alternative plant, working methods etc) would be employed during the construction phase to reduce noise and vibration nuisance respectively from potentially significant construction activities. Implementation of BPM measures as defined in Section 72 of the CoPA (Ref 13.19) and Section 79 (9) of the Environmental Protection Act (EPA) 1990 (Ref 13.20) would include measures such as, but not limited to: • Use of temporary noise screens to disrupt line of sight between activities and receptors. • Plant to consist of modern, well-maintained machinery fitted with efficient silencers, where possible, designed to minimise noise levels that are generated during operations. • All compressors and generators to be 'sound reduced' models. • Ancillary pneumatic percussive tools to be fitted with mufflers or suppressers. • Machines in intermittent use shall be shut down between work or, where this is impracticable, throttled down to a minimum. • Where practicable, plant with directional noise characteristics to be positioned to minimise noise at nearby properties. • Static equipment and machinery to be sited as far as is practicable from inhabited buildings. Use of temporary noise	Outline CoCP secured via a DCO requirement. **Volume 2, Part 1, Appendix 5.B: Outline CoCP**	MT01 (C)

Receptor	Potential changes and effects	Environmental measures	Compliance mechanism	ID reference
		screens to disrupt line of sight between activities and receptors.		
Operation				
Noise sensitive receptors within 1 km of the indicative zone for the proposed new converter station	Potential adverse effects from the operation of the proposed new converter station.	Proposed above ground infrastructure and underground infrastructure will be designed such that noise and vibration from their normal operation is mitigated to a minimum in line with the aims of the Noise Policy Statement for England (NPSE) (Ref 13.17), National Policy Statement for Energy (EN-1) (NPS EN-1) (Ref 13.18) and in the context of sustainable development. Sourcing equipment and defining mitigation requirements (such as noise enclosures etc.) within the proposed converter stations in accordance with NGET technical specifications which include requirements regarding audible noise and confirmation by type testing and sample testing.	DCO requirement	NV01 (D)

13.7 Scope of the Assessment

Spatial scope and study area

13.7.1 The spatial scope of the assessment of noise and vibration covers the area of the English Onshore Scheme defined within the specified study areas in Section 13.4, defined relative to the draft Order Limits, the indicative zone for temporary construction works, the indicative zone of the converter station.

13.7.2 The study areas for noise and vibration are shown on the following figures:

- **Volume 3, Part 2, Figure 13.1: Construction Study Area;** and
- **Volume 3, Part 2, Figure 13.2: Operational Study Area**.

Temporal scope

13.7.3 The temporal scope of the noise and vibration assessment is consistent with the period over which the English Onshore Scheme would be carried out. It covers the periods set out below:

- The construction assessments are consistent with the period over which the English Onshore Scheme would be in construction i.e., between 2029 and 2035;
- Site based construction noise and vibration is assessed at each key point of the programme and when the maximum plant for that phase is in use;
- The assessment of road traffic noise associated with the construction works will be completed at ES stage, informed by the further development of the construction programme, Automatic Traffic Count data and the latest construction traffic forecasts. The PEIR identifies construction road traffic noise as a matter requiring further assessment; and,
- The operational assessments align with the English Onshore Scheme becoming operational in 2035 and remaining operational for 40 years thereafter, although likely extended through replacement and repair.

13.7.4 The English Onshore Scheme is expected to have a minimum life span of approximately 40 years. If decommissioning is required at that point in time, then activities and effects associated with the decommissioning phase are expected to be of a similar level to those during the construction phase works, albeit with a lesser duration of two years, and with the removal of visible infrastructure, effects would reduce over the course of that period. Acknowledging the complexities of completing a detailed assessment for decommissioning works up to 40 years in the future, it is considered that the significance of effects relating to the decommissioning phase would be no greater than those from the construction phase and decommissioning effects are not discussed in detail in this chapter; however, **Table 4-19** in **Volume 1, Part 1, Chapter 4: Description of the Project** provides a high level summary assessment of the likely significant effects associated with decommissioning. Furthermore, should decommissioning take place it is expected that an assessment in accordance with the legislation and guidance at the time of decommissioning would be undertaken.

Identification of receptors

13.7.5 The principal types of noise and vibration sensitive receptors considered within the scope of this study are summarised in **Table 13-6.**

Table 13-6 Noise and vibration receptors subject to potential effects

Receptor	Reason for consideration
Residential – residences, including private gardens where appropriate	These receptors occur within the study area of the English Onshore Scheme and have the potential to experience a change in noise and / or vibration as a result of the English Onshore Scheme and may present the potential for adverse effects.
Community services – e.g. schools (during daytime periods), places of worship	
Commercial – e.g. offices, retail, entertainment venues and eateries, leisure facilities	
Leisure areas – e.g. local nature reserves	These sites have the potential to experience adverse effects as a result of the English Onshore Scheme. These potential effects will be further defined and considered in the ES as part the landscape and visual assessment.
Terrestrial ecology – e.g. designated sites include Special Protection Areas and Sites of Special Scientific Interest	These sites have the potential to experience adverse effects as a result of the English Onshore Scheme. These potential effects will be further defined and considered in the ES as part of the biodiversity assessment.
Historic environment – e.g. scheduled monuments, listed buildings	These sites have the potential to experience adverse effects as a result of the English Onshore Scheme. These potential effects will be further defined and considered in the ES as part of cultural heritage assessment in **Volume 1, Part 2, Chapter 7: Cultural Heritage**.

Potential effects considered within this assessment

13.7.6 The effects of noise and vibration on sensitive receptors, which have the potential to be significant are assessed as summarised in **Table 13-7**.

Table 13-7 Noise and vibration receptors scoped in for further assessment

Receptor	Likely significant effects
Sensitive receptors identified in **Table 13-6** to be located within 300 m of the construction limits of deviation	Potential for adverse effects relating to construction noise as predicted and assessed in accordance with BS 5228-1 (Ref 13.2).
Sensitive receptors identified in **Table 13-6** to be located adjacent to construction traffic routes / links	Potential for adverse effects relating to changes in road traffic noise along affected links during construction, as assessed in accordance with DMRB LA 111 (Ref 13.7).
Sensitive receptors identified in **Table 13-6** to be located within 100 m of the construction haul routes and the indicative zone of the converter station	Potential for adverse effects relating to construction vibration as predicted and assessed in accordance with BS 5228-2 (Ref 13.3).
Sensitive receptors identified in **Table 13-6** to be located within 1 km of the indicative zone of the converter station	Potential for adverse effects relating to operational noise associated with the converter station, as assessed in accordance with BS 4142 (Ref 13.1).

13.7.7 The receptors / effects detailed in **Table 13-8** have been scoped out of further assessment due to the potential effects not being considered likely to be significant, Matters scoped out have been agreed with PINS through Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report and the Planning Inspectorate Scoping Opinion (Ref 13.12).

Table 13-8 Summary of effects scoped out of the noise and vibration assessment

Receptors / potential effects	Justification
General construction vibration resulting from construction activities other than piling and ground stabilisation	Transport and Road Research Laboratory Supplementary Report 328 'Ground vibrations caused by road construction activities' (Ref 13.13), concluded that, 'at distances greater than 20 m, the vibration levels measured were below the level of human perception because of attenuation in the ground and that it is unlikely that people would be disturbed by vibration from general construction activities at distances of 20 m or more.'
Vibration associated with construction traffic	Vibration from road traffic on existing highways is caused by the interaction of the vehicle tyres and the road surface; thus, resulting from significant surface irregularities. Assuming the road surfaces used by construction traffic are free from irregularities, significant effects would not be expected. This would be controlled through the implementation of a traffic management plan.

Receptors / potential effects	Justification
Vibration associated with the static plant facilities	All plant with moving parts would be mounted on suitable anti-vibration mounts and vibration eliminated at source for the protection of the operational plant and equipment, and superstructure of the facilities.
Noise and vibration associated with future maintenance of the underground HVAC and HVDC cables, converter Station	Maintenance activities are likely to be infrequent, localised, and short term. Activities would follow standard measures to reduce noise and vibration and therefore significant effects are not expected.

13.8 Key Parameters for Assessment

Realistic worst-case design scenario

13.8.1 The assessment has followed the Rochdale Envelope approach as outlined in **Volume 1, Part 1, Chapter 4: Description of the Project** and **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology.**

13.8.2 The assessment of effects has been based on the description of the Project and parameters outlined in **Volume 1, Part 1, Chapter 4: Description of the Project**.

13.8.3 However, where there is uncertainty regarding a particular design parameter within the scope of the noise assessment, realistic worst-case design parameters are provided below along with the reasons as to why these parameters are considered worst-case. The preliminary assessment of noise and vibration has been undertaken on this basis.

13.8.4 Effects of greater adverse significance than those presented in the noise assessment are not likely to arise should any other development scenario, based on details within the Rochdale Envelope (e.g., different infrastructure layout within the draft Order Limits), and what has been assessed herein, be taken forward in the final design.

13.8.5 In relation to noise and vibration the following assumptions are made regarding the Project's design parameters in order to ensure a realistic worst-case assessment has been undertaken.

- As accepted by the Planning Inspectorate in the EIA Scoping Opinion (PINS **ID 3.8.5)**, the operational noise from underground HVAC and HVDC cables do not present the potential for any likely significant effects as all noise sources will be underground and as such propagation and emission of noise into the environment will not occur. This was accepted by the Planning Inspectorate through the EIA Scoping Opinion (PINS **ID 3.8.5)** and therefore operational noise from the cables is not considered further.
- Through the Scoping Opinion (PINS **ID 3.8.3**), the Planning Inspectorate have agreed that the issue of construction traffic vibration can be scoped out of the EIA, with clauses necessary in the Outline Code of Construction Practice to ensure road surfaces are suitably managed and maintained.
- Due to the rural setting of the English Onshore Scheme, baseline noise monitoring will not be conducted for the undergrounding sections of the HVAC and HVDC cable routes. With this regard the lowest threshold criterion from BS 5228-1 (Ref 13.2) has been concluded, unless emerging local factors suggest otherwise and these will be considered within the ES. This ensures a proportionate but robust evaluation, as limits

at the lowest BS 5228-1 (Ref 13.2) thresholds present a worst-case assessment regarding the potential for significant adverse effects.

- The assessment of road traffic noise associated with construction works will be completed at ES stage, informed by the further development of the construction programme, Automatic Traffic Count data and the latest construction traffic forecasts. For the purposes of this PEIR, construction road traffic noise is identified as a matter requiring further assessment.
- During the operational (and maintenance) phase the converter station would be operated by a small team and maintenance will be limited to routine activities. During maintenance (planned and unplanned) the number of personnel present on site would increase with the number of staff proportionate to the nature of the maintenance works being undertaken. Occasional Heavy Goods Vehicles (HGV), and potentially Abnormal Indivisible Loads (AIL) will be required at the converter Station site. Assuming converter station staff all drive this typically would equate to a maximum of 20 No. car / LGV trips per day (10 arrivals, 10 departures), also accounting for occasional maintenance vehicles and visitors.
- In relation to the inspection and maintenance of the cable route, vehicle movements would be limited to a small number of maintenance and staff vehicles. On the basis of this assumption, no likely significant effects are expected and therefore as set out in Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report, operational (and maintenance) phase of the underground cabling is scoped out as agreed under PINS Scoping Opinion (PINS ID 3.8.7).

Consideration of construction scenarios

13.8.6 As detailed in **Volume 1, Part 1, Chapter 4: Description of the Project**, the timing of construction activities set out within this PEIR is purely indicative. To allow for any unexpected circumstances and consider a realistic worst-case assessment, the construction noise and vibration assessment considers the following construction scenario for noise and vibration:

- The assessment supporting the noise and vibration chapter assumes that all plant and equipment identified in a specific construction phase is operational at closest approach to the assessment receptor, thus meaning that the attenuation of sound over distance is minimised;
- The assumption has been made that the EGL 5 Project construction activities would occur concurrently, relating to the installation of the HVAC and HVDC underground cables, and the construction of the converter station. This would mean higher levels of construction activity at any given time than if the schemes were developed in isolation or programmed effectively; and
- Where various routeing options exist for the HVAC and HVDC cable routes, the assessment is based upon the consideration of the closest routeing option to the receptor under consideration. This again minimises the separation distances from the sources to the receptors and thusly minimises the opportunity for sound to dissipate over distance.

13.9 Assessment Methodology

Overview

13.9.1 The generic project-wide approach to the assessment of the Project is set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, specifically in Section 5.4 to Section 5.6. However, whilst this has informed the approach to the noise and vibration assessment, it is necessary to set out how this methodology has been applied, and adapted, to address the specific needs of this noise and vibration assessment. Details are provided below.

Sensitive Receptors

13.9.2 There is no published methodology available to assign a value to a receptor from a noise and vibration perspective as such all receptors considered within the noise and vibration assessment are assigned the same level of sensitivity:

- NSRs are defined as dwellings, hospitals, healthcare facilities, education facilities, community facilities, Environmental Noise Directive quiet areas or potential Environment Noise Directive quiet areas, international and national or statutorily designated sites, Public Rights of Way and cultural heritage assets; and
- VSRs are classified as dwellings, hospitals, healthcare facilities, education facilities, community facilities, buildings containing vibration-sensitive equipment and cultural heritage assets.

Magnitude of impact

13.9.3 Construction noise impacts have been assessed in accordance with BS 5228-1 (Ref 13.2). Construction activities generate noise which can, under the right conditions, be experienced by nearby sensitive receptors. The noise levels experienced and the response to these depends upon a number of variables, the most significant of which are:

- The noise generated by plant or equipment used on site;
- The amount / number of construction plant items operational at the same time;
- The periods of operation of the plant on the site, known as its ‘on-time’ or ‘percentage on-time’. This accounts for how much of the assessment period the equipment is actually generating noise;
- The distance between the noise source and the receptor; and
- Operational times of the day, evening or night respectively which will affect the sensitivity to the noise.

13.9.4 Predictions of the construction noise from the English Onshore Scheme have been undertaken in accordance with Annex F of BS 5228-1 (Ref 13.2) across the construction noise study area defined in Section 13.4, utilising the calculation methods and formulae contained within Annex F of the Standard.

13.9.5 The guidance of Annex E of BS 5228-1 has been implemented for the setting of appropriate Construction Noise Threshold Category, linked to the baseline noise climate assumptions or measurements.

13.9.6 As a result of the approximately 9 km length of the English Onshore Scheme and the nature of the areas that the Project passes through, the assumption is made that the noise climate would be low and therefore the lower noise threshold of Category "A" has been assumed to be representative. The Category "A" construction noise threshold represents the lowest assessment threshold from BS 5228-1 (Ref 13.2), and as such the use of this criteria would be considered a worst-case scenario, as the only variance would be to increase threshold Categories to "B" or "C" at specific locations where higher baseline / ambient noise levels prevail and are proven.

13.9.7 In the vicinity of the proposed new converter station the baseline noise monitoring informing the operational assessment, would also be used to define the appropriate BS5228-1 (Ref 13.2) noise threshold Category at the identified NSRs in the vicinity.

13.9.8 The Lowest Observed Adverse Effect Level (LOAEL) and the Significant Observed Adverse Effect Level (SOAEL), as defined in **Table 13-9** for construction noise, remain in line with those presented in **Volume 1, Main Text, Chapter 13: Environmental Impact Assessment Scoping Report.** Within the Scoping Opinion the Planning Inspectorate presented no objections or variations to these values.

Table 13-9 Construction noise LOAELs and SOAELs at residential receptors

Time Period	LOAEL	SOAEL (1) (2)
Weekdays 7:00am to 7:00pm, Saturdays 7:00am to 1:00pm	Baseline noise levels LAeq, T	75dB LAeq, T
Weekdays 7:00pm to 11:00pm Saturdays 1:00pm to 11:00pm, Sundays 7:00am to 11:00pm	Baseline noise levels LAeq, T	65dB LAeq, T
All days Night-time 11:00pm to 7:00am	Baseline noise levels LAeq, T	55dB LAeq, T

Notes:

*(1) Based upon lowest eligibility for noise insulation as defined in Table E.2 of BS 5228-1:2009 (+A1 2014) (Ref 13.2). Additional note to noise insulation; an offer of insulation can also be made where a noise level 5 dB or more above the existing pre-construction ambient noise level for the corresponding times of day are measured, with the offer or insultation being made based upon whichever is higher; hence the threshold for SOAEL would be set relative to the lower of these and as such could change with justification.

*(2) If the ambient noise level exceeds the SOAEL values given in the table (i.e. the ambient noise level is higher than the above values), then **a potential significant effect** is indicated if the total LAeq, T noise level for the period increases by more than 3 dB due to site noise.

13.9.9 Based on the criteria presented in **Table 13-6** a semantic magnitude of impact scale has been defined relative to both environment, and health and quality of life impacts. As such the following impact magnitudes are applicable:

- **Negligible**: Below LOAEL.

- **Minor**: Above or equal to LOAEL but below the appropriate BS 5228-1 (Ref 13.2) Category.
- **Moderate**: Above or equal to the appropriate BS 5228-1 (Ref 13.2) Category but below an SOAEL.
- **Major**: Above or equal to an SOAEL.

Construction Traffic

13.9.10 Noise from construction traffic on the public highway would be calculated in accordance with CRTN (Ref 13.5) and assessed against the criteria detailed in DMRB LA 111 (Ref 13.6).

13.9.11 The road traffic noise levels from road links used within the construction phase would be calculated for the 'do-nothing' and 'do something' scenarios in the peak activity year occurring in 2030 or 2031, to allow direct comparison, and the conclusion of potential changes in road traffic noise.

13.9.12 The LOAEL and the SOAEL for the construction traffic noise assessment would be established in accordance with **Table 13-10**. Within the Scoping Opinion the Planning Inspectorate presented no objections or variations to these values.

Table 13-10 Construction traffic noise LOAELs and SOAELs

Time Period	Adverse effect level	$L_{night, outside}$ noise level (dB)	L_{A10} noise level (dB)
Daytime	LOAEL	N / A	55dB $L_{A10, 18hr}$ façade
	SOAEL	N / A	68dB $L_{A10, 18hr}$ façade
Night-time	LOAEL	40dB $L_{night, outside}$ (free field)	N / A
	SOAEL	55dB $L_{night, outside}$ (free field)	N / A

13.9.13 The calculated Basic Noise Level values are compared for the 'do-nothing' and 'do something' construction traffic flow scenarios within the peak year, to determine the magnitude of the impact in line with the semantic description scale below.

- **Negligible:** Less than 1.0 dB change in road traffic noise.
- **Minor:** Greater than or equal to a 1.0 dB, but less than a 3.0 dB, change in road traffic noise.
- **Moderate:** Greater than or equal to a 3.0 dB, but less than a 5.0 dB, change in road traffic noise.
- **Major:** Greater than or equal to a 5.0 dB change in road traffic noise.

Construction Vibration

13.9.14 Construction vibration levels will be calculated and assessed in accordance with the methodologies described in BS 5228-2 (Ref 13.3) relating to piling and ground stabilisation. No vibration baseline study is proposed within either the PEIR or the ES, as construction vibration levels are considered relative to fixed, absolute level assessment criteria as detailed in BS 5228-2 (Ref 13.3).

13.9.15 Threshold vibration levels from piling and ground stabilisation, including applicable LOAEL and SOAEL values, are presented in **Table 13-11**. Within the Scoping Opinion the Planning Inspectorate presented no objections or variations to these values.

Table 13-11 Construction vibration effect magnitudes at residential receptors

Vibration Level mm / s PPV (Peak Particle Velocity)	Effect	Observed Adverse Effect Level
<0.3 mm / s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.	N / A
≥0.3 to <1.0 mm / s	Vibration might be perceptible in residential environments.	
≥1.0 to <10 mm / s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.	LOAEL
≥10 mm / s	Vibration is likely to be intolerable for any more than a brief exposure to this level in most building environments.	SOAEL

13.9.16 Based on the above, a semantic magnitude of impact scale has been defined relative to environment, and health and quality of life impacts. As such, the following impact magnitudes are applicable with regard to piling and ground stabilisation ground-borne vibration impacts:

- **Negligible**: <0.3mm / s;
- **Minor**: ≥0.3mm / s and <1.0mm / s;
- **Moderate**: ≥1.0mm / s and <10.0mm / s; and
- **Major**: ≥10.0mm / s.

Operational Noise

13.9.17 BS 4142 (Ref 13.1) provides a methodology and criteria for assessing new or existing industrial sound sources by comparing the operational sound (rating level) at a sensitive receptor to the background sound level currently experienced without the new sound source.

13.9.18 The rating level is defined as the specific sound level with the addition of character corrections to consider certain acoustic features including tonality, impulsivity or other acoustic characteristics present within a new or modified sound sources.

13.9.19 The assessment methodology outlined in BS 4142 (Ref 13.1) indicates that the greater the difference of the rating level in comparison with the background sound level (L_{A90}) the greater the significance of the impact, as set out in **Table 13-12**.

13.9.20 Appropriate LOAEL and SOAEL values for the consideration of operational effects are presented in **Table 13-12**. Within the Scoping Opinion the Planning Inspectorate presented no objections or variations to these values.

Table 13-12 Operation noise effect magnitudes at residential receptors

Effect	Observed Adverse Effect Level
≤ LA90 -0dB: Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.	N / A
> LA90 -0dB and ≤ LA90 +5dB: The lower the rating level is, relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact.	LOAEL
> LA90 +5dB and ≤ LA90 +10dB: A difference of around + 5 dB is likely to be an indication of an adverse impact, depending on the context.	
> LA90 +10dB: A difference of +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.	SOAEL

13.9.21 Based on **Table 13-12**, a semantic magnitude of impact scale has been defined relative to environment, and health and quality of life impacts. As such, the following impact magnitudes are applicable with regard to operational static plant noise:

- **Negligible**: < LA90 -0dB (as defined in **Table 13-12**);
- **Minor**: > LA90 -0dB and ≤ LA90 +5dB (**Table 13-12**);
- **Moderate**: > LA90 +5dB and ≤ LA90 +10dB (**Table 13-12**); and
- **Major**: > LA90 +10dB (**Table 13-12**,).

Determining a Significant Effect

Construction Noise and Construction Traffic

13.9.22 Likely potential significant effects for construction noise and construction traffic noise are defined in accordance with DMRB LA 111 (Ref 13.6) on the following grounds.

13.9.23 "*Construction noise and construction traffic noise shall constitute a significant effect where it is determined that a* ***major or moderate magnitude of impact*** *will occur for a duration exceeding:*

- *10 or more days or nights in any 15 consecutive days or nights; or,*
- *a total number of days exceeding 40 in any 6 consecutive months."*

Construction Vibration

13.9.24 Likely potential significant effects for construction vibration are defined in accordance with DMRB LA 111 (Ref 13.6) on the following grounds.

'Construction vibration shall constitute a significant effect where it is determined that a ***major or moderate magnitude of impact*** *will occur for a duration exceeding:*

a) 10 or more days or nights in any 15 consecutive days or nights;

b) a total number of days exceeding 40 in any 6 consecutive months.'

Operational Noise

13.9.25 Likely potential significant effects for operational noise are defined in accordance with BS 4142 (Ref 13.1) on the following grounds.

'*The significance of sound of an industrial and / or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs / will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.'*

- 'Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following:
  - The absolute level of sound;
  - The character and level of the residual sound compared to the character and level of the specific sound; and
  - The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and / or outdoor acoustic conditions.'

13.9.26 Based upon the guidance contained within BS 4142 (Ref 13.1), a potential significant effect has been deemed to have occurred for **impacts of a moderate or greater magnitude considering the context** of the sound generated by the English Onshore Scheme.

Preliminary assessment of cumulative effects

13.9.27 At the current stage of the Project (PEIR stage), design information is insufficient to allow for a robust cumulative assessment to be undertaken. Furthermore, given the current position in relation to baseline data collection, with the environmental surveys still to be undertaken during 2026, the baseline identified at this PEIR stage cannot be taken as a complete picture of the potential presence and significance of sensitive receptors. Therefore, a cumulative assessment has not been undertaken at this stage; however, **Volume 1, Part 4, Chapter 27: Cumulative Effects** and **Volume 2, Part 4, Appendix 27.A Long List of other Developments** present the long and short lists of 'other developments' for the inter-project cumulative effects which will be considered at the ES stage (with updates as necessary), and the methodology which allowed for the identification of these other developments, to allow consultation bodies to form a view and provide comment on the other developments included. The long list will be reviewed and if necessary, updated, in the lead up to the ES, as the English Onshore Scheme design further evolves and in response to any comments raised at statutory consultation.

13.9.28 Intra-project cumulative effects result principally from different types of impacts from one development acting in combination on a specific receptor. For noise and vibration, interrelationships are identified with cultural heritage, landscape and visual, terrestrial biodiversity and population and human health and are summarised below:

- **Volume 1, Part 2, Chapter 6: Biodiversity** – disturbance to species, including some that form qualifying features of designated sites;
- **Volume 1, Part 2, Chapter 7: Cultural Heritage** – effects on heritage assets as a result of increased audibility of the English Onshore Scheme during construction and operational phases and impacts resulting from ground-borne vibration during construction activity;
- **Volume 1, Part 2, Chapter 8: Landscape and Visual Amenity** – effects on landscape and visual receptors as a result of increased audibility of the Projects during construction and operational phases resulting in effects on perceived tranquillity within the study area; and
- **Volume 1, Part 2, Chapter 16: Health and Wellbeing** – effects arising from changes in noise levels are also a consideration within the assessment of human health undertaken within the Health and Wellbeing Assessment.

13.9.29 The above interrelationships have been considered as part of the assessments reported in the respective topic chapters.

13.10 Preliminary Assessment of Noise and Vibration Effects

13.10.1 This section outlines the preliminary assessment of impacts for the English Onshore Scheme during the construction and operational phases based upon the maturity of the information at the time of this PEIR.

Construction noise

13.10.2 Preliminary construction plant data and associated noise data for the English Onshore Scheme is presented in **Volume 2, Part 2, Appendix 13.A: Construction Plant Assumptions**. Although BPM to reduce construction noise impacts would be employed by the contractor for all work areas, for the purpose of this preliminary assessment it is assumed that no noise mitigation, such as screening, is included. This is so that potential noise 'hot spots' can be identified which would require specific mitigation measures to avoid significant adverse effects. However, BPM, such as those presented in **Table 13-5,** would likely be employed by the contractor for all work areas to reduce construction noise impacts, and based upon the guidance of Annex B of BS5228-1 (Ref 13.2) these measures could potentially achieve between 5 dB to 10 dB of sound reduction, potentially up to 20 dB for specific activities.

13.10.3 The construction noise assessment undertaken within the scope of this PEIR has calculated construction noise levels at a total of 302 sensitive receptors located within the construction noise study area as identified on **Volume 3, Part 2, Figure 13.1: Construction Study Area**.

13.10.4 The number of potential significant adverse effects presented in **Table 13-13** is concluded at this point in the absence of any mitigation measures specified under BPM and secured within the DCO.

13.10.5 The assessments accord with the core hours for construction underpinning the PEIR, as specified in **Volume 2, Part 1, Appendix 5.B: Outline CoCP** to be:

- Monday to Friday between 07:00 and 19:00; and
- Saturdays, Sundays, Bank Holidays and other Public Holidays between 08:00 and 17:00.

13.10.6 The results presented in **Table 13-13** have aligned the Project's core working hours to the time periods set out in BS 5228-1 (Ref 13.2) and **Table 13-9.**

13.10.7 However, there remains the potential for activities associated with Health and Safety, and construction activities such as concrete pouring, dewatering, cable pulling, cable jointing and drilling during the operation of a trenchless technique (e.g., Horizontal Directional Drilling), installation and removal of conductors, pilot wires and associated protective netting across highways or public footpaths to require operating outside of these core hours, and this will be considered further within the developing information supporting the ES.

Table 13-13 Preliminary likely significant effects from construction noise, aligned to the time periods set out in BS 5228-1 (Ref 13.2)

Activity	Weekday daytime number of potential significant effects	Saturday daytime number of potential significant effects		Sunday daytime number of potential significant effects	Night-time number of potential significant effects
	0700 - 1900	0700 - 1300	1300 - 2300	0700 - 2300	2300 - 0700
Converter Station Construction Works					
Enabling Works and Earthworks	0	0	0	0	N / A
Utilities and Drainage	0	0	0	0	N / A
Foundation Works	0	0	0	0	N / A
Structural Construction - Piling	0	0	0	0	N / A
Structural Construction – Buildings	0	0	0	0	N / A
Underground HVAC and HVDC Cable Installation, Haulage routes and Compounds					
Initial Enabling Works	1	1	11	11	N / A
Establishment of construction compounds including site facilities	0	0	2	2	N / A
Haulage road installation	2	2	45	45	N / A
Ducted and trenchless crossings	0	0	0	0	5
Cable trench installation and joint bays	0	0	1	1	N / A
Cable pulling	0	0	3	3	N / A
Cable jointing and termination	0	0	0	0	N / A
Testing and commissioning	0	0	0	0	N / A
Removal of all site works and restoration to original condition	0	0	27	27	N / A

13.10.8 The result presented in **Table 13-13** indicate that the preliminary unmitigated assessment supporting this PEIR, concludes a potential for significant adverse noise effects during the weekday and weekend periods.

13.10.9 It is reiterated that the results presented in **Table 13-13** are unmitigated, and do not include any reduction in noise associated with the inclusion of BPM which would be employed on this Project.

13.10.10 During the weekday and Saturday morning core construction hours:

- The unmitigated calculations indicate a potential for significant adverse effects during core construction hours, primarily associated with haulage road installation works and initial enabling works.
- Consideration of BPM mitigation as outlined in BS 5228-1 (Ref 13.2) for construction activities (**Table 13-5**) could provide up to 20 dB of attenuation to specific activities. However, practical implementation of BPM relating to general construction works would give a more realistic 10 dB of attenuation. Implementation of BPM into the calculations:
- Removes the potential for significant adverse effects during the initial enabling works phase; and,
- During haulage road installation, whilst with the implementation of BPM the appropriate construction threshold could still be breached at one location, situated on Sutton Road near Blisby due to proximity, this activity is highly transient and as such would be unlikely to qualify as a potentially significant adverse effect as a result of the duration of the impact.

13.10.11 Construction activities associated with the proposed new converter station and installation of the underground cables during the core construction hours are unlikely to result in potentially significant adverse effects especially following the implementation of BPM mitigation. A detailed review of the programme of construction activities would be undertaken for the ES and will provide detail on the duration that any receptor would likely experience construction noise. Impacts are likely to be of short duration and would therefore not result in significant adverse effects.

13.10.12 During the more sensitive weekend periods (including Sunday) still defined as the core hours, the assessment of potential significant adverse effects from construction activities concludes:

- The unmitigated calculations demonstrate a greater prominence for the potential for significant adverse effects during these more sensitive periods, as a result of the lower acceptable construction noise thresholds. The implementation of BPM would reduce the potential for significant adverse effects, as would a detailed review of the programme of construction activities, taking into consideration the transient nature and short duration of some activities associated with the Project.
- The implementation of BPM relating to general construction works would give up to 10 dB of attenuation, with the implementation of BPM into the calculations concluding the following during these more sensitive times:

- During initial enabling works the appropriate construction threshold could still be breached at one location Vista Rosa in Mablethorpe, situated near Crawcroft Lane to proximity, specific additional mitigation would be needed to remove the potential for significant adverse effects, however, as this relates purely to Saturday afternoon / evening and Sunday working this could include programme restrictions in close proximity to receptors.
- During the establishment of construction compounds including site facilities, cable trench installation and joint bays, cable pulling and removal of all site works and restoration to original condition, the implementation of BPM removes the potential for significant adverse effects during these works phases.
- During haulage road installation, with the implementation of BPM the appropriate construction threshold could still be breached at two locations: Shirelea Cottage situated on Sutton Road near Blisby and a residential building on East Street opposite Alford Town Football Club, in Alford due to their proximity, this activity is highly transient and as such would be unlikely to qualify as a significant adverse effect as a result of the duration of the impact. Furthermore, as this relates purely to Saturday afternoon / evening and Sunday working mitigation for these two receptors could include programme and / or activity restrictions.

13.10.13 Construction activities associated with the proposed new converter station during the weekend core construction hours are unlikely to result in significant adverse effects following the implementation of BPM. A detailed review of the programme of construction activities would be undertaken for the ES and will provide detail on duration that any receptor would likely experience construction noise.

13.10.14 Whilst there are wider activities that retain the potential to need to be undertaken outside of core hours on a 24 hr basis as detailed in Paragraph 13.10.7, the only activity assessed as part of the PEIR due to the information available, are those of directional drilling associated with trenchless crossings. During the night-time, assessment of the potential for significant adverse effects from this activity concludes:

- The unmitigated calculations demonstrate a potential for significant adverse effects at five NSR's. The implementation of BPM removes the potential for significant adverse effects at all five of these receptors during the overnight period. These receptors are:
  - The Gatehouse, Mill Lane, Alford;
  - Greenacres Farm, Sutton Road, Alford;
  - Rimutaka, Sutton Road, Alford;
  - Woodrow Farm Bungalow, Sutton Road, Alford; and
  - Lingard & Brown, Woodrow Farm, Sutton Road, Alford.

13.10.15 The issue of the potential for significant construction noise effects and the necessary mitigation under BPM will be developed through the EIA process in collaboration with the evolving engineering design of the English Onshore Scheme, and in consultation with the local planning authority. This will allow potential significant effects to be concluded relative to programme and other considerations, and mitigation specified and implemented through BPM, secured within the Outline CoCP to be submitted in support of the DCO application.

Construction traffic

13.10.16 At the time of the production of the PEIR, a quantitative assessment of changes in road traffic noise associated with construction traffic has not been undertaken. Construction road traffic noise is therefore identified as a matter requiring further assessment at ES stage. This reflects the ongoing development of the construction programme, the availability of Automated Traffic Count data for relevant highway links at ES stage, and the use of the latest construction traffic forecasts to inform the assessment.

13.10.17 The ES will assess the potential acoustic impacts of construction traffic on the existing highway network and, where necessary, identify appropriate mitigation measures to be secured through the Outline CoCP.

Construction vibration

13.10.18 Construction plant data and associated vibration assumption data is provided in **Volume 2, Part 2, Appendix 13.A: Construction Plant Assumptions**. Based upon this information an initial, high-level assessment of construction vibration has been undertaken.

13.10.19 The construction vibration assessment undertaken within the scope of this PEIR has calculated where there is any potential for significant adverse effects. This is concluded at this point in the absence of specific BPM mitigation measures, so represents a worst-case with this regard considering impacts during daytime periods to be as follows:

- Ground compaction activities during haul road construction – one sensitive receptor, Shirelea Cottage situated on Sutton Road near Blisby, is predicted to experience potential vibration impacts of moderate or greater, without the inclusion of any BPM mitigation measures. As such this could present the potential for a significant adverse effect due to proximity of the works to the receptor. However, haul road construction is highly transient in nature and as such would not be expected to occur for a significant duration of time; less than ten days in any 15 consecutive days at any one location, and as such due to temporal scope would not present a significant adverse effect. Additionally, BPM will be implemented as part of standard construction operations, secured through their inclusion within the Code of Construction Practice, submitted in support of the DCO application. These would further reduce vibration levels generated.
- Percussive and vibratory piling activities during foundation works on the converter station – No (zero) sensitive receptors are predicted to experience any vibration impacts of greater than Minor, concluded in the absence of any influence of BPM mitigation. As such piling would not present any potential for significant adverse effects.

13.10.20 As can be seen from the conclusions presented above, the preliminary calculations supporting this PEIR conclude no potential for significant adverse vibration effects during the construction of the English Onshore Scheme. This will be considered further in the lead up to the ES including where necessary the need and nature of BPM mitigation measures, as more specifics of the construction phases of the English Onshore Scheme become available.

Operation

Static plant facilities

13.10.21 At the time of the production of the PEIR, the layout and specifics of any noise emitting plant has not been finalised. As such it has not been possible to quantify the potential noise impacts, consider the requirement for any mitigation or conclude any potential for significant adverse effects.

13.10.22 Mitigation options and design considerations would be considered and implemented where necessary as part of the ES, as further information emerges as part of the design of the facilities.

13.10.23 The 27 potential NSRs in the vicinity of the proposed converter station are shown in **Volume 3, Part 2, Figure 13.2: Operational Study Area**.

13.10.24 Therefore, the assessment of noise associated with the static elements of the English Onshore Scheme, namely the converter station, will be developed and considered as part of the DCO process and presented within the ES.

13.11 Further Work to be Undertaken

13.11.1 The information provided in this PEIR is preliminary, the final assessment of significant effects will be concluded and reported in the ES. This section describes the further work to be undertaken to support the Noise and Vibration assessment presented in the ES.

Consultation

13.11.2 In the lead up to the ES, the consultation process initiated with the LPAs (LCC and ELDC) will be developed and continued.

13.11.3 Consultation will be undertaken with the East Lindsey District Council Environmental Health Department, to continue to develop and agree the scope of the noise assessments supporting the English Onshore Scheme; including elements such as assessment and prediction methodologies and the approach to baseline surveys.

Baseline

13.11.4 Baseline noise surveys are necessary as part of the assessments supporting the ES to determine existing noise climates at noise sensitive receptors in the vicinity of the converter station, at the western end of the English Onshore Scheme.

13.11.5 The survey data, along with subjective observations, will form the basis of the operational noise assessments for the static / fixed plant facilities associated with the English Onshore Scheme. Actual monitoring locations will also be defined in associated with the LPA through factors such as land access permissions, representativeness and equipment safety. The baseline surveys would also be used to develop construction noise threshold criteria for the construction phase of the converter station.

13.11.6 Baseline noise surveys would be conducted in accordance with the methodology described in BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures (Ref 13.4). The measurement periods and durations would be agreed where possible with the LPA, but would be delivered relative to a combination of the methods as discussed in Section 13.4.

13.11.7 Weather conditions would be monitored concurrently with the unattended noise surveys through the use of long-term meteorological stations linked to the sound level meters. Where attended surveys are undertaken subjective weather observations would be made using handheld equipment such as anemometers, combined with subjective observation of cloud cover, precipitation, and wind speed and direction.

Assessment

13.11.8 The assessments undertaken for the PEIR will be reviewed following stakeholder consultation feedback and further design refinement. The following assessments will then either be updated or undertaken where they have not been undertaken for this PEIR:

- Updated construction noise assessments for the converter station and underground HVAC / HVDC cable installation works;
- Undertake a construction traffic noise assessment for the peak year;
- Updated construction vibration assessment;
- Production of a detailed operational noise assessment for the proposed converter station; and
- Undertake a Cumulative Effects Assessment.

Further environmental measures

13.11.9 As the details of the construction programme and works mature, further consideration of BPM and specific mitigation / alternative construction methods will be required and will be undertaken as part of the production of the ES.

13.11.10 To date, no additional measures beyond the application of BPM during the construction phase have been identified as being necessary. However, this is a preliminary assessment which has not included any prediction of operational noise from the converter station or the consideration of any mitigation necessary in the design.

13.11.11 Through the scope of the noise assessments that will support the ES, further design refinement and assessment will be undertaken to identify and conclude any additional environmental measures necessary to ensure noise does not present a significant adverse effect during either construction or operation, these environmental measures will be fully considered and detailed as part of the production of the ES.

13.11.12 As the operational HVAC and HVDC cables are to be located underground for the length of the English Onshore Scheme, no additional environmental measures would be deemed to be necessary for this element of the Project.

13.12 Bibliography

Ref 13.1 British Standards Institution (2019). BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound. London: British Standards Institution.

Ref 13.2 British Standards Institution (2014). BS 5228-1:2009 (+A1:2014): Code of practice for noise and vibration control on construction and open sites. Noise. London: British Standards Institution.

Ref 13.3 British Standards Institution (2014). BS 5228-2:2009 (+A1:2014): Code of practice for noise and vibration control on construction and open sites. Vibration. London: British Standards Institution.

Ref 13.4 British Standards Institution (2019). BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures (BS 7445). London: British Standards Institution.

Ref 13.5 Department of Transport and Welsh Office (1988). Calculation of Road Traffic Noise (CRTN). London: HMSO.

Ref 13.6 National Highways (2020a). Design Manual for Roads and Bridges (DMRB), LA 111 Noise and Vibration. Revision 2. London: National Highways.

Ref 13.7 Institute of Environmental Management and Assessment (2014). Guidelines for Environmental Noise Impact Assessment. Lincoln: IEMA.

Ref 13.8 International Organization for Standardization. (2024). ISO 9613-2:2024 Acoustics — Attenuation of sound during propagation outdoors. Part 2: Engineering method for the prediction of sound pressure levels outdoors. Geneva: ISO.

Ref 13.9 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019). Planning Practice Guidance for Noise (PPGN). London: Department for Levelling Up, Housing and Communities.

Ref 13.10 British Standards Institution (1993) BS 7385-2:1993, Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration

Ref 13.11 Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government. (2021). National Planning Practice Guidance, Healthy and Safe Communities.

Ref 13.12 Planning Inspectorate (2025). Scoping Opinion: Proposed Eastern Green Link 5 [online]. Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0210010-000042-Scoping%20Opinion.pdf [Accessed 5 January 2026]

Ref 13.13 Transport Research Laboratory (TRL) Limited (1997). Supplementary Report 328: Ground vibrations caused by road construction activities. Crowthorne: Transport Research Laboratory.

Ref 13.14 Ordnance Survey (2024). AddressBase Core [Data set]. Available at: https://www.ordnancesurvey.co.uk/products/addresses-names [Accessed: 5 January 2026].

Ref 13.15 Ordnance Survey (2024). OS Open Zoomstack [Data set]. Available at: https://osdatahub.os.uk/data/downloads/open/OpenZoomstack [Accessed: 5 January 2026].

Ref 13.16 Department for Environment, Food & Rural Affairs (2024). Strategic Noise Mapping Data. Available online at: https://environment.data.gov.uk/explore/562c9d56-7c2d-4d42-83bb-578d6e97a517?download=true [Accessed: 5 January 2026].

Ref 13.17 Department for Environment, Food & Rural Affairs (2010). Noise Policy Statement for England (NPSE). London: Department for Environment, Food & Rural Affairs.

Ref 13.18 Department for Energy Security and Net Zero. (2023). National Policy Statement for Energy (EN-1). London: Department for Energy Security and Net Zero.

REF 13.19 Control of Pollution Act 1974 Available at https://www.legislation.gov.uk/ukpga/1974/40/contents

Ref 13.20 Environmental Protection Act 1990 Available at https://www.legislation.gov.uk/ukpga/1990/43/contents

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