

Volume 1: Chapter 5 - EIA Process and Methodology

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5. EIA PROCESS AND METHODOLOGY

5.1 Introduction

- 5.1.1 Environmental Impact Assessment (EIA) is a process culminating in the preparation of an EIA Report (EIAR) that identifies, describes and assesses the likely significant effects of the Proposed Development on the environment. When determining an application, the relevant decision-maker must examine the EIAR and reach a reasoned conclusion on whether planning permission or a development consent is to be granted and consider whether it is appropriate to impose conditions which may include monitoring measures amongst other controls.
- 5.1.2 This Chapter sets out the regulatory context for undertaking the EIA and the assessment methodology applied in the identification of effects, the approach to mitigation, and assessment of the significance of likely environmental effects. This Chapter also outlines the structure of the EIAR.

5.2 EIA Methodology

- 5.2.1 This EIAR has been prepared in accordance with the *EIA Regulations* and has been informed by current best practice guidance¹ from the UK and Scottish Governments, Local Authorities, and industry professional bodies, including the following:
- *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*²;
 - Scottish Government *Planning Advice Note (PAN) 1/2013* (revision 1.0)³;
 - Scottish Government *Planning Circular 1/2017*⁴;
 - Institute of Environmental Management and Assessment (IEMA) *Impact Assessment Guidelines 8/2024*⁵; and
 - Nationally Significant Infrastructure Projects (NSIP): *Advice on Cumulative Effects Assessment 9/2024*^{6&7}.
- 5.2.2 An overview of the methodology and guidance adopted for the EIA and each technical study is provided within the respective chapters of this EIAR. These chapters draw on discipline-specific advice and guidance as provided in the Scottish Government PAN and Circular and follow the overarching EIA guidance on both cumulative impacts and a mitigation hierarchy broadly aligned with the IEMA guidance. The approach adopted in **Volume 2, Technical Chapters** also follow specific policy, best practices, and technical guidance from the relevant institutions and professional organisations for their technical discipline, as well as from relevant statutory and non-statutory consultees (e.g., NatureScot, Historic Environment Scotland (HES), Scottish Environment Protection Agency (SEPA)), and taking account of SSEN Transmission's General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs). The institutions and professional organisations relevant to the EIA disciplines include:
- Forestry – Institute of Chartered Foresters (ICF);
 - Landscape and Visual Amenity – Landscape Institute (LI);
 - Cultural Heritage – Chartered Institute for Archaeologists (CIfA);
 - Ecology – Chartered Institute of Ecology and Environmental Management (CIEEM);
 - Ornithology – CIEEM;
 - Hydrology, Hydrogeology, Geology and Soils – Chartered Institution of Water and Environmental Management (CIWEM);

¹ Guidance has been taken from a wide variety of sources insofar as they hold relevance.

² HM Government, 2017. *The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*. [Online] Available at: <https://www.legislation.gov.uk/ssi/2017/101/contents/made>.

³ Scottish Government, 2013 (Revised 2017). *Planning Advice Note 1/2013 (revision 1.0) Environmental Impact Assessment*. [Online] Available at: <https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/pages/1/>.

⁴ Scottish Government, 2017. *Planning Circular 1/2017; Environmental Impact Assessment Regulations*. [Online] Available at: <https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/>.

⁵ IEMA, August 2024. *Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction*. [Online] Available at: <https://www.iema.net/media/oone2qce/iema-mitigation-in-eia-guidance-final.pdf>.

⁶ Planning Inspectorate, September 2024. *Nationally Significant Infrastructure Projects (NSIP): Advice on Cumulative Effects Assessment*. [Online] Available at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment>.

⁷ In the absence of specific guidance, the approach to assessing cumulative impacts has been informed by Planning Inspectorate's NSIP guidance; however, the NSIP process does not have direct relevance or application in Scotland.

- Traffic and Transport – Chartered Institution of Highways and Transportation (CIHT) and Chartered Institute of Logistics and Transport (CILT); and
- Noise and Vibration – Institute of Acoustics (IOA).

5.2.3 The technical teams who have undertaken the EIA include fully accredited members of their respective institutions and professional organisations. They have used their professional judgement to interpret and apply the applicable guidance in developing the proposed methodologies for the assessment of likely significant effects for each topic area and cumulative effects covered in **Volume 2, Technical Chapters**. The assessment of significance of effect is based on the understanding of environmental baseline sensitivity and analysis undertaken as part of the assessments underpinning the EIAR, and the professional judgement and experience of the assessors. Some assessments may reference specific thresholds to assign baseline receptor sensitivity, impact magnitude and/or effect significance. Where relevant, these have been stated in the relevant chapter of **Volume 2, Technical Chapters**.

5.3 Scope

5.3.1 Development of the assessments has been the subject of consultation with statutory and non-statutory consultees through the publication of, and consultation on, the “Environmental Impact Assessment (EIA) Scoping Report: Kintore to Tealing 400 kV Overhead Line”, published in September 2024⁸ (**Volume 5, Appendix 6.1: Scoping Report**). The scope of the EIA and focus of the resulting EIAR has been informed by the Scoping Opinion issued by the Energy Consents Unit (ECU) on 19 December 2024 in response to the EIA Scoping Report (**Volume 5, Appendix 6.2: Scoping Opinion**). This is discussed further within **Volume 1, Chapter 6: Scope and Consultation**, and as clarified through correspondence between the Applicant and the ECU. The scope of each EIA topic is also set out in the early sections of each technical chapter in **Volume 2, Technical Chapters**.

5.4 Approach to Baseline

- 5.4.1 To identify the scale of likely significant effects of the Proposed Development, it is necessary to establish the existing baseline character and sensitivity of an area prior to development. The study area considered for the purposes of establishing the existing baseline varies by technical discipline and is specified within **Volume 2, Technical Chapters**. This EIAR was prepared using up-to-date technical baseline information representing discipline-based best practice, which incorporated desk studies and empirical survey and fieldwork, using professional and approved data collection and assessment methods. In addition, information provided by consultees as part of the scoping and consultation process was included. Where applicable, survey and data collection methods were agreed with relevant consultees prior to undertaking fieldwork.
- 5.4.2 Once the initial environmental baseline character is determined and key receptors are identified and categorised, the potential for likely significant effects on this baseline, arising from the construction and operation of the Proposed Development, are assessed using an appropriate methodology for each technical discipline.
- 5.4.3 A broad assessment approach for the identification of likely significant effects is set out in **Section 5.6**. Consideration of a future baseline condition is required to fully understand the potential for significant effects of reasonably foreseeable changes at the time of preparation of the EIAR, recognising that the implementation of the Proposed Development would be at a point in the future. Such changes in baseline conditions may arise due to factors associated with anticipated climate change, habitat succession or proposed land use changes. This EIAR sets out the rationale for considering a future baseline and the assumptions made in defining it. Consideration is also given to the potential for cumulative effects where the assessment would describe effects associated with the Proposed Development in combination with the future changes to the baseline. The predicted in-combination effects are described in each Technical Chapter where relevant as well as in **Volume 2, Chapter 16: Cumulative Effects**, together with the predicted interactive cumulative effects (see **Section 5.7**).

5.5 Approach to Mitigation

5.5.1 In this EIAR, mitigation has been developed and organised in a three-tier mitigation hierarchy that is broadly in line with latest guidance from IEMA (see **Section 5.2**). The three tiers are as follows:

1. **Embedded Mitigation:** design stage mitigation;

⁸ SSN Transmission, September 2024. *Environmental Impact Assessment (EIA) Scoping Report: Kintore to Tealing 400 kV Overhead Line*. [Online] Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005225>.

2. **Applied Mitigation:** standard/best practice environmental discipline and/or construction industry mitigation; and
 3. **Additional Mitigation:** site-specific bespoke mitigation identified from impact assessments undertaken for each key environmental topic of the EIA.
- 5.5.2 **Tier 1, Embedded Mitigation**, is a process of seeking to mitigate likely significant effects through the design stage of project development. The purpose of embedding mitigation through project design is to avoid, reduce or eliminate foreseeable potentially significant environmental effects. Avoiding or reducing environmental impacts through the design process is a key objective of EIA.
- 5.5.3 The design of the Proposed Development has been progressed through an iterative process integrating electrical and civil engineering and environmental considerations into the infrastructure design. The design process has sought to avoid, prevent or reduce potentially significant environmental effects at the outset whilst also taking account of site topography, slope, drainage, existing land uses and vegetation and designated areas (see **Volume 1, Chapter 3: Project Description**, and **Volume 1, Chapter 4: Alternatives and the Routeing Process** which describe how the OHL design process has been iterated to avoid potential likely significant environmental effects wherever possible).
- 5.5.4 **Tier 2, Applied Mitigation**, comprises the adoption of good practice measures and procedures relating to discipline-specific, and industry standard construction environmental management measures, which are well understood and in which there is a high degree of confidence that their implementation on-site would be effective in controlling and reducing potential effects on the environment.
- 5.5.5 In addition, the Applicant's own environmental management plans would be implemented, which are based on relevant industry standards. For infrastructure projects constructed in recent years, the Applicant has developed and effectively implemented a suite of General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) which prescribe good environmental management practices (see **Volume 5, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**). The Applicant has also developed a Consents and Environment Specification (CES) which prescribes environmental management principles which Principal Contractors are required to meet under the terms of the Principal Contracts for construction of the Proposed Development. The CES includes management plans that the Principal Contractors are required to prepare and implement, including a Construction Environmental Management Plan (CEMP), and subsidiary plans on aspects such as ecological and ornithological management, water resources protection, construction noise management, and construction transport management. In preparing and implementing these plans, the Principal Contractors will be required to incorporate any additional management plans or other mitigation measures identified in the EIAR as necessary to avoid or reduce significant residual effects (i.e. "additional mitigation" as defined in **paragraph 5.5.6**). The content, compliance and effective implementation of these plans by the Principal Contractors during construction would also be assured through on-site monitoring by suitably qualified environmental professionals and an audit process, the implementation of which is typically a condition of the deemed planning permission.
- 5.5.6 **Tier 3, Additional Mitigation**, comprises discipline and site-specific mitigation considered necessary to reduce the magnitude of predicted impacts and/or significance of residual environmental effects which remain after the application of embedded and applied mitigation in the evaluation of residual effects in the EIA process.
- 5.5.7 Embedded Mitigation is secured through the design process, while both Applied Mitigation and Additional Mitigation would be secured through the terms of the Principal Contracts. In addition, it is expected that Angus Council and Aberdeenshire Council, as planning authorities, would seek the implementation of similar environmental management principles, and of specific Management Plans, through conditions attached to the deemed planning permission issued as part of the Section 37 Consent. The expectation would be that the management plans and mitigation developed by the Principal Contractors in accordance with the approach described above, would be reviewed and approved by Angus Council and Aberdeenshire Council as part of the process of discharging the relevant conditions.
- 5.5.8 All mitigation measures identified through the design and EIA processes are collated into a single schedule of mitigation commitments which are presented in **Volume 2, Chapter 17: Schedule of Mitigation**.

5.6 Assessment of Likely Significant Environmental Effects

Approach to Impact Assessment

- 5.6.1 The EIA process has been carried out in respect of the Proposed Development for the purpose of seeking to identify potential likely significant effects that are predicted to result from the construction and/or the operation of the Proposed Development. This process enables the Applicant to develop and apply mitigation in the manner described above, and to predict and evaluate the significance of residual environmental effects through the application of predictive tools and techniques, assessment criteria and guidance, as well as the application of professional judgement by competent experts, whose relevant expertise and qualifications are stated in **Volume 5, Appendix 5.1: The EIA Team** for each of the relevant Technical Chapters.
- 5.6.2 Predicted impacts have been assessed by considering the following:
- the geographic extent or magnitude of change (from the baseline conditions);
 - the sensitivity or value of the affected environmental factors/receptors;
 - the availability and likely effectiveness of measures to mitigate impacts;
 - the likelihood of occurrence; and
 - reversibility and duration of the likely residual effects.
- 5.6.3 The *EIA Regulations*² require the likely significant effects of the Proposed Development on the environment to be described. There is no definition of “significant” within the *EIA Regulations*, but in terms of the requirements of Regulation 5(3): “Where a scoping opinion is adopted, the EIAR must be based on that scoping opinion and must include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment”. In this EIAR the information included within the assessment of likely significant effects has been based on the Scoping Opinion referred to above and dated 19 December 2024 (see **paragraph 5.3.1**). The threshold of significant effect is considered to be an effect which in isolation or in-combination with other effects is considered to be material having regards to the factors specified in Regulation 4(3) of the *EIA Regulations* and should be considered in decision making. The evaluation of the significance of predicted environmental effects considers the predicted magnitude of change (from the impact), the sensitivity of the receptor and the extent to which (embedded and applied) mitigation would help to avoid or reduce impacts.
- 5.6.4 The magnitude (scale) of change for each impact has been identified and predicted as a deviation from the established baseline conditions for the construction and operational phases⁹ of the Proposed Development. Magnitude of impact is typically characterised in terms of the extent of change, and the geographical extent over which an impact may be experienced, and is represented using a scale of High, Medium, Low or Negligible magnitude. Criteria used to inform the judgement of impact scale are generally discipline-specific and where they have been used, they are set out in the relevant chapters of **Volume 2, Technical Chapters**.
- 5.6.5 The sensitivity of the receptor/receiving environment to change has been determined using professional judgement, considering the presence and proximity of existing designations (such as Sites of Special Scientific Interest (SSSI)) and using quantifiable data and information from field surveys, and inputs from consultation, where relevant. Determination of baseline sensitivity is a topic and/or a discipline-specific process and is typically represented using a scale of High, Medium, Low and Negligible. Each Technical Chapter of this EIAR sets out the baseline with commentary on the sensitivity and susceptibility of the identified receptors to change.
- 5.6.6 The process for evaluating the likely significance of effect is guided with reference to a significance matrix as set out in **Table 5.1: Matrix for Determining the Significance of Effects**. This approach to determining significance of effect is adopted in combination with the professional judgement and experience of the assessor, and in some cases requires a modified approach to the application of the significance matrix. This is addressed, where applicable, within each of the Technical Chapters in **Volume 2** of this EIAR.

⁹ Decommissioning has been scoped out of the EIAR. See **Volume 1, Chapter 6: Scope and Consultation**.

Table 5.1: Matrix for Determining the Significance of Effects

Magnitude of Change/Impact	Sensitivity of Receptor/Receiving Environment			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

- 5.6.7 Major and Moderate effects are considered to be Significant in the context of the *EIA Regulations*. Minor and Negligible effects are considered to be Not Significant. Where environmental effects are predicted to be Significant taking account of embedded and applied mitigation, the requirement for further (additional) mitigation has been considered within each EIA discipline, and the predicted significance of the residual effect is then reported in the relevant Technical Chapters of **Volume 2, Technical Chapters** and their associated appendices.
- 5.6.8 The characteristics of an effect will vary depending on the duration of the activity causing the effects, the sensitivity of the receptor and the resultant change. It is therefore necessary to assess whether the effect is temporary or permanent; beneficial or adverse; and indirect or direct. Effects that are temporary are usually reversible and generally confined to the construction period, for example.
- 5.6.9 For the purposes of this EIAR, the terms used in the assessment of effects are generally defined as follows:
- Temporary – where the effect occurs for a limited period of time and the predicted adverse effect for a defined receptor may be reversed;
 - Permanent – where the effect represents a long-lasting change for a defined receptor and is usually not reversible;
 - Direct – where the effect is a direct result (or primary effect) of the construction, operation or retention of the Proposed Development;
 - Indirect – a knock-on effect which occurs within or between environmental components, and may include effects on the environment which are not a direct result of the Proposed Development, often occurring away from the proposals or as a result of a complex biological or chemical pathway;
 - Cumulative – these effects may arise when more than one development of a similar scale and nature combine to create a potentially greater impact than would result from the Proposed Development alone (see also **Section 5.7**);
 - Beneficial – an effect that is beneficial to one or more environmental receptors; and
 - Adverse – a detrimental, or adverse, effect on one or more environmental receptors.
- 5.6.10 For certain topics, such as ecology, widely recognised significance criteria and associated terminology have been published by the relevant professional body. Where these are adopted for such topics, information on their use is presented in the Technical Chapters and associated appendices of the EIAR.

Approach to the Limits of Deviation

- 5.6.11 The horizontal and vertical Limit of Deviation (LOD) for the Proposed Development (as defined in **Volume 2, Chapter 3: Project Description**) represent the areas within which micro-siting of the OHL infrastructure can occur within the terms of a Section 37 Consent. The LOD forms a virtual ‘box’ of varying width and height along the route of the OHL within which the Proposed Development would be located. The purpose of the LOD is to allow flexibility within the Section 37 Consent so that any required micro-siting of individual tower and access track locations may be permitted to provide for post-consent design changes without the need to seek a new consent. Alterations to the designed infrastructure locations may be necessary following detailed pre-construction surveys in response to the identification of constraints such as localised ground conditions, topography, engineering and environmental sensitivities which were not apparent at the outline design stage which has informed the EIA.
- 5.6.12 As noted in **Chapter 3, Table 3.1: Overview of the LOD Variations**, the process of applying LOD variations/restrictions has been used as an embedded mitigation measure to reduce the potential for significant adverse environmental effects which may occur where infrastructure was micro-sited from the design locations assessed in this EIA. This has been achieved by

constraining some of the horizontal extents of the LOD in key sensitive areas in order to reduce the 'allowance' for spatial changes in OHL tower or access track locations resulting from future micrositing.

- 5.6.13 The EIA has taken account of the LOD by considering the potential for variation between the project design for which Section 37 Consent is sought and the final (as built) design where micrositing may be needed to adjust the design (eg access track and tower positions) during construction.
- 5.6.14 Each Technical Chapter in **Volume 2, Technical Chapters** (Chapter 7 to 15) has addressed this potential for variation on predicted effects within the extents of the LOD (as restricted) by providing commentary on the potential for predicted significant effects to differ in the event that micrositing would adjust the location of infrastructure from the design locations assessed for this EIA.

Inter-relationship between impacts

- 5.6.15 The chapter structure of the EIAR presents the assessment findings according to a series of broad topics which form each chapter heading (e.g., ecology, noise, cultural heritage etc.). Chapter titles are thematically named in accordance with general EIA practice and convention; however, some topics are reflective of disciplines (e.g., forestry), some of scientific fields (eg, ecology) and some which are based on specific impacts to environmental quality (e.g., noise).
- 5.6.16 It is important to acknowledge that potential impacts of the Proposed Development may have cross-cutting and inter-related effects on receptors identified within two or more of these topics. For example, given the broad range of activities associated with construction works, there is potential for environmental impacts on receptors which may be considered in several EIAR chapters (eg, changes in surface water run-off quality may lead to effects on watercourses addressed in the hydrology chapter with respect to water chemistry, and also within the ecology chapter for effects on receiving habitats and species).
- 5.6.17 The *EIA Regulations* (Regulation 4(2)) require the consideration of the interaction between factors for which significant direct and indirect effects are predicted. As such, the inter-relationship between potential effects across different topic areas are also considered in accordance with the *EIA Regulations* and these are addressed in **Volume 2, Chapters 7 to 15**.
- 5.6.18 **Table 5.2: Summary of Effect Interactions by EIA Topics** below identifies where there are possible inter-relationships between the effects considered within the chapter topic groups of the EIAR.

Table 5.2: Summary of Potential Effect Interactions by EIA Topics¹⁰

EIAR Topic	Land Use and Prime Agricultural Land	Forestry	Landscape and Visual	Cultural Heritage	Ecology	Ornithology	Hydrology, Hydrogeology, Geology and Soils	Traffic and Transport	Noise and Vibration
Land Use and Prime Agricultural Land									
Forestry									
Landscape and Visual Amenity									
Cultural Heritage									
Ecology									
Ornithology									
Hydrology, Hydrogeology, Geology and Soils									
Traffic and Transport									
Noise and Vibration									

5.6.19 The functional relationships identified in the table above are explored further in the relevant assessments in **Volume 2, Chapters 7 to 15** and the principal inter-relationships are summarised in **Table 5.3: Key Inter-Relationships Assessed in the EIA**. It should be noted that the inter-relationships identified in **Table 5.3: Key Inter-Relationships Assessed in the EIA** are laid out by receptor/impact group as they relate to each EIAR topic in the order addressed; therefore, they are not duplicated under subsequent topic headings. For each key area of interaction, the table identifies the lead EIAR chapter where the potential impacts and/or receptors are assessed further.

Table 5.3: Key Inter-Relationships Assessed in the EIA

Receptor	Key Inter-Relationships
Volume 2, Chapter 7: Land Use and Prime Agricultural Land	
Extent and distribution of prime agricultural land	No identified inter-related impacts. Key land uses described in Chapter 7: Land Use and Prime Agricultural Land however form the basis for the property and people-based receptors considered where relevant in Chapter 9: Landscape and Visual Amenity , Chapter 13: Hydrology, Hydrogeology, Geology and Soils , Chapter 14: Traffic and Transport and Chapter 15: Noise and Vibration . Property and community-based receptors are also susceptible to interactive cumulative effects, which are assessed in Chapter 16: Cumulative Effects .
Volume 2, Chapter 8: Forestry	
The local forest resource – woodlands affected by felling for Operational Corridor of the overhead line (OHL) and access	The predicted felling requirements and changes to woodland have been considered in the assessment of related effects in Chapter 9: Landscape and Visual Amenity , Chapter 13: Hydrology, Hydrogeology, Geology and Soils , Chapter 11: Ecology and Chapter 12: Ornithology .
Loss of broadleaved woodland including woodland recorded on the Ancient Woodland Inventory (AWI)	Potential effects on broadleaved woodland are considered in Chapter 11: Ecology . Broadleaved woodland loss in relation to effects on landscape character are considered in Chapter 9: Landscape and Visual Amenity .
Woodland management and operations including felling	The potential for noise from management activities to create and maintain an Operational Corridor through areas of woodland are addressed in Chapter 15: Noise

¹⁰ **Table 5.2: Summary of Effect Interactions by EIA Topics** key: green indicates potential for an interaction between topics; white indicates there is no interaction between topics; grey indicates that the compared topics are the same and therefore it is not applicable (eg ecology and ecology).

Receptor	Key Inter-Relationships
	and Vibration. Traffic generated during construction from felling and creation of access into forest areas is included within Chapter 14: Traffic and Transport. The longer-term changes predicted from the forestry assessment has been considered in Chapter 10: Cultural Heritage.
Volume 2, Chapter 9: Landscape and Visual Amenity	
The physical landscape, landscape character and areas with landscape designations	Whilst Chapter 9: Landscape and Visual Amenity considers changes in landscape and views from aspects of the Proposed Development such as woodland felling, specific input to landscape design for larger areas of woodland felling are addressed in the relevant technical appendices (Woodland Reports) to Chapter 8: Forestry. Consideration in Chapter 9: Landscape and Visual Amenity of areas designated for landscape value includes Gardens and Designed Landscapes (GDL) whose inherent cultural heritage importance is covered on Chapter 10: Cultural Heritage. Consideration in Chapter 9: Landscape and Visual Amenity of landscape mitigation and enhancement proposals within the Operational Corridor also involves ecological and ornithological input for biodiversity benefit, which is also considered in Chapter 11: Ecology and Chapter 12: Ornithology, respectively.
People living in and moving around settlements, people engaged in outdoor recreation, people at promoted tourist destinations and recreation grounds and people travelling along the road and rail network.	The assessment in Chapter 9: Landscape and Visual Amenity considers how key views would be changed by woodland felling which are described in Chapter 8: Forestry. Consideration has been given to effects from a number of viewpoints that are important in terms of their landscape, visual and cultural heritage value with the latter category detailed in Chapter 10: Cultural Heritage.
Volume 2, Chapter 10: Cultural Heritage	
Cultural heritage resources, particularly those of a built or upstanding nature, including designated landscapes, buildings and archaeological sites	The assessment in Chapter 10: Cultural Heritage takes account of relevant inter-related effects which have potential to affect the setting and experience of cultural sites. These include longer-term changes predicted from the assessments in Chapter 8: Forestry, and construction impacts from Chapter 14: Traffic and Transport and Chapter 15: Noise and Vibration. Consideration has been given to effects from a number of viewpoints that are important in terms of their landscape, visual and cultural heritage value as with the former category detailed in Chapter 9: Landscape and Visual Amenity. Consideration in Chapter 9: Landscape and Visual Amenity of areas designated for landscape value includes Gardens and Designed Landscapes (GDL) whose inherent cultural heritage importance is covered on Chapter 10: Cultural Heritage.
Volume 2, Chapter 11: Ecology	
Areas designated for ecological importance including Special Areas of Conservation (SACs) and nationally and regionally designated areas	Potential impacts to designated areas have taken account of the findings of assessments of changes to water quality and quantity addressed in Chapter 13: Hydrology, Hydrogeology, Geology and Soils. Impacts on designated areas such as riverine SACs also takes account of loss of important woodland types which are reported in Chapter 8: Forestry.
Habitats of conservation concern including ancient woodland and wetlands	The ecological effects of predicted changes to areas of woodland identified in Chapter 8: Forestry are assessed in Chapter 11: Ecology. These include effects from permanent loss of habitat (particularly ancient woodland), from operational stage vegetation management and from opportunities to regenerate areas of woodland. Potential effects on groundwater dependent terrestrial ecosystems (GWDTEs) draw from predicted impacts on permanent changes in groundwater set out in Chapter 13: Hydrology, Hydrogeology, Geology and Soils and the habitat (National Vegetation Classification (NVC)) element of GWDTEs is covered in Chapter 11: Ecology. Consideration in Chapter 9: Landscape and Visual Amenity of landscape mitigation and enhancement proposals within the Operational Corridor also involves ecological and ornithological input for biodiversity benefit, which is also considered in Chapter 11: Ecology and Chapter 12: Ornithology, respectively. Changes in habitats from permanent development of the OHL and its accesses are assessed in Chapter 11: Ecology and used to inform the ornithological assessment, as detailed in Chapter 12: Ornithology.

Receptor	Key Inter-Relationships
Protected species	The assessment of effects on aquatic species including freshwater pearl mussel (<i>Margaritifera margaritifera</i>) and Atlantic salmon (<i>Salmo salar</i>) in Chapter 11: Ecology has considered the relevant effects predicted in Chapter 13: Hydrology, Hydrogeology, Geology and Soils. Chapter 11: Ecology also addresses inter-related impacts from changes in woodland management including from felling and operational disturbance identified in Chapter 8: Forestry. Chapter 11: Ecology also considers the effects of construction disturbance, including from noise on sensitive protected species such as wildcat. Further details regarding noise impacts are detailed in Chapter 15: Noise and Vibration. Narrative is also provided on the approach, survey results and rationales for scoping out construction disturbance on other species.
Volume 2, Chapter 12: Ornithology	
Breeding birds including protected species and species of conservation concern	The assessment of effects on birds during construction presented in Chapter 12: Ornithology has considered the disturbance / displacement effects predicted from noise (Chapter 15: Noise and Vibration). Changes in habitats, including felling requires and changes to woodlands, from permanent development of the OHL and its accesses are assessed in Chapter 11: Ecology, Chapter 9: Forestry and Chapter 9: Landscape and Visual Amenity and used to inform the ornithological assessment.
Wintering birds, particularly geese and designated Special Protection Areas (SPAs) important for these species	The principal potential impact on these species and sites is from collision of geese species with the installed OHL conductors and these effects are specific to ornithology covered in Chapter 12: Ornithology.
Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils	
Surface watercourses and waterbodies	The potential effects of changes in water quality and drainage (including flood risk) identified in Chapter 13: Hydrology, Hydrogeology, Geology and Soils regarding sensitive habitats and species are addressed in Chapter 11: Ecology. The predicted felling requirements and changes to woodland have been considered in the assessment of related effects in Chapter 8: Forestry.
Groundwater resources including private water supplies (PWS)	Properties with affected PWS may also be affected by impacts predicted for other people-based topics including those in Chapter 9: Landscape and Visual Amenity, Chapter 14: Traffic and Transport and Chapter 15: Noise and Vibration. Where these impacts have potential for cumulative (interactive) impacts on community receptors these are reported in Chapter 16: Cumulative Effects.
Geological resources and designated sites (e.g., Geological SSSIs)	These effects are considered to be specific to the assessment in Chapter 13: Hydrology, Hydrogeology, Geology and Soils with no material inter-relationships from other topic chapters identified.
Soils, in particular those vulnerable to development such as peat reserves/peat soils	Peat soils are very limited in extent in the OHL study area and where present the potential for disturbance has been generally avoided through the design process. Upland habitats with some connection to peat substrates are considered in Chapter 11: Ecology with reference to relevant information in Chapter 13: Hydrology, Hydrogeology, Geology and Soils.
Volume 2, Chapter 14: Traffic and Transport	
Road users including pedestrians, cyclists and equestrians	Effects on other road users from changes in traffic due (primarily) to construction of the Proposed Development are covered within Chapter 14: Traffic and Transport. Where disruption from traffic, particularly heavy vehicles, is identified as having potential for cumulative impacts on community receptors these are reported in Chapter 16: Cumulative Effects. Traffic related disruption and disturbance has inter-related effects with a range of other EIA topics/chapters as identified in earlier rows of this table.
Volume 2, Chapter 15: Noise and Vibration	
Residential and other noise sensitive properties and other (ecological) receptors	Chapter 15: Noise and Vibration focuses on predicted significant noise effects on property-based receptors particularly residential dwellings. It considers a range of noise

Receptor	Key Inter-Relationships
	sources for construction and operation including activities such as tree felling (Chapter 8: Forestry) and traffic (Chapter 14: Traffic and Transport). Noise impacts have inter-related effects with a range of other EIA topics/chapters as identified in earlier rows of this table. Receptors affected by noise may also be affected by impacts predicted for other people-based topics including those in Chapter 9: Landscape and Visual Amenity, Chapter 13: Hydrology, Hydrogeology, Geology and Chapter 14: Traffic and Transport. Where these impacts have potential for cumulative impacts these are reported in Chapter 16: Cumulative Effects.

5.6.20 It should be noted that these inter-related impacts are not cumulative effects. They are addressed within the reporting of the individual EIAR topics to ensure that each chapter presents a comprehensive assessment of the likely significant effects of the Proposed Development, taking account of the functional relationships that have been identified between relevant impacts and receptors. A separate assessment of the potential for significant combined additive and synergistic environmental effects from more than one topic on common receptors (referred to in this EIAR as interactive cumulative effects) is presented as part of the reporting of cumulative effects in **Volume 2, Chapter 16: Cumulative Effects**. The approach to this assessment is discussed further in **Section 5.7** below.

5.7 Cumulative Effects

5.7.1 The assessment of cumulative effects is a key part of the EIA process and is concerned with identifying circumstances in which a number of potential and/or predicted effects associated with the Proposed Development, in combination with other existing or planned development projects, could combine to cause a significant effect on a particular receptor.

5.7.2 In this EIAR, the following cumulative effects have been considered:

- **In-combination effects:** effects from the Proposed Development together with effects from other reasonably foreseeable future developments taking into consideration effects at the site preparation and earthworks, construction and operational phases. These are considered within each technical chapter in **Volume 2: Main Text**.
- **Interactive effects:** the combined or synergistic effects caused by the combination of a number of effects on a particular receptor. For example, the possibility that a receptor may experience an impact on visual amenity, and an increase in noise, which taken together result in a more significant effect than from the impacts in isolation. These effects are considered in **Chapter 16: Cumulative Effects**.

5.7.3 These effects are briefly discussed below and further details of the methodology are provided in **Section 16.3 of Chapter 16: Cumulative Effects**.

In-combination effects

5.7.4 "In-combination effects" have been considered with reference to two groups of reasonably foreseeable future developments (see **Volume 3, Figures 5.1.1 to 5.1.6: Cumulative Developments**):

- **Intra (Associated) Developments:**
 - the new Proposed 400 kV substation called Emmock, near Tealing;
 - the new Proposed 400 kV substation called Hurlie, in Fetteresso Forest;
- **Inter Developments** which are other SSEN Transmission developments not listed above as well as other third-party developments which fall into one of the following categories:
 - project proposals of National Importance within 3 km¹¹ of the Proposed Development; or
 - local development proposals within 2 km and where an EIA is required;
 and where:
 - undetermined planning/consent applications or scoping requests have been submitted; or
 - consents have been granted but construction has not yet commenced at the time of preparation of this EIAR.

¹¹ This distance may vary in some Technical Chapters depending on the context of the Chapter.

- 5.7.5 The schedule of potential reasonably foreseeable developments was completed at the end of May 2025 to provide an appropriate cut-off for the subsequent assessment and reporting of the predicted effects of the Proposed Development in this EIAR. The local planning authorities were consulted on the future developments which should be used in the cumulative assessment. The schedule of other projects identified for this purpose is provided in **Volume 2, Chapter 16: Cumulative Effects**. The In-combination effects assessment and the findings are included in the relevant sections of **Volume 2, Chapters 7-15** and are summarised in **Volume 2, Chapter 16: Cumulative Effects**.

Interactive effects

- 5.7.6 The EIAR also provides a qualitative assessment of the potential for interactive effects, which are those arising from the combination of different types of predicted project impacts on common receptors. This assessment is provided in **Volume 2, Chapter 16: Cumulative Effects**.

5.8 EIA Quality

- 5.8.1 In accordance with Regulation 5(5) of the *EIA Regulations*, by appointing Land Use Consultants (LUC) to co-ordinate the EIAR for the Proposed Development, the Applicant has ensured that the EIAR has been prepared by competent experts. The EIAR has been compiled and approved by professional EIA practitioners at LUC, holding relevant undergraduate and post-graduate degrees, and membership of IEMA.
- 5.8.2 The EIAR meets the requirement of the IEMA EIA Quality Mark scheme having been prepared by LUC which is a Quality Mark scheme registrant. This is a voluntary scheme operated by IEMA that allows organisations to make a commitment to excellence in EIA and to have this commitment independently reviewed on an annual basis.
- 5.8.3 The Applicant and LUC can confirm that each of the topic-based impact assessment chapters of the EIAR has been prepared by competent experts, with the details being provided in the chapters of the relevant qualifications, any professional memberships of the authors and any applicable code of practice followed in their assessment work. The following summary is provided of the specialist consultants appointed by the Applicant for this EIAR (see also **Volume 5, Appendix 5.1: The EIA Team** for further details):
- EIAR Co-ordination and Non-Technical Chapters: LUC, Collin Consulting Ltd and Ateal Planning & Environment Ltd;
 - Land Use and Prime Agricultural Land: LUC and Ateal Planning & Environment Ltd;
 - Forestry: DGA Forestry, LUC and SSEN Transmission;
 - Landscape and Visual Amenity: LUC;
 - Cultural Heritage: CFA Archaeology Ltd;
 - Ecology: LUC;
 - Ornithology: LUC;
 - Hydrology, Hydrogeology, Geology and Soils: Kaya Consulting;
 - Traffic and Transport: Pell Frischmann; and
 - Noise and Vibration: Wood Plc.