Scottish & Southern Electricity Networks
TRANSMISSION

VOLUME 2: CHAPTER 5 – EIA PROCESS AND METHODOLOGY

Figures (Volume 3 of this EIA Report)

Appendices (Volume 5 of this EIA Report)

There are no appendices associated with this chapter.

5. EIA PROCESS AND METHODOLOGY

5.1 Introduction

5.1.1 Environmental Impact Assessment (EIA) is a process that considers how a proposed development is predicted to change existing environmental conditions and what the consequences of such changes will be. It informs both the proposed development design and the decision-making processes related to the granting of development consent.

5.1.2 This chapter describes the statutory context for undertaking an EIA. It also describes the assessment methodology used to evaluate environmental impacts, and to identify potential significant effects and any mitigation required. This chapter also outlines the structure of this EIA Report.

5.2 EIA Regulations

5.2.1 As discussed in **Chapter 1: Introduction and Background**, this EIA Report has been prepared in accordance with the EIA Regulations. This EIA Report contains the information specified in Regulation 5 of, and Schedule 4 to, the EIA Regulations. The approach to the assessment has been informed by current best practice guidance.

5.2.2 An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report. The proposed methodologies for the assessment of potential significant effects for each topic area covered in the technical chapters within **Volume 2** of this EIA Report have been the subject of consultation with statutory and non-statutory consultees through the publication of, and consultation on, the "Spittal to Loch Buidhe to Beauly 400 kV Overhead Line (OHL) Connection Environmental Impact Assessment: Scoping Report", published in October 2024 (see **Volume 5**, **Appendix 6.2: Scoping Report**). This EIA Report is based on the Scoping Opinion received, discussed further within **Chapter 6: Scope and Consultation** of this EIA Report and associated appendices.

5.3 Baseline

5.3.1 To identify the scale of potential significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions.

5.3.2 The baseline scenario for each technical chapter was established through a combination of the following methods:

- Site visits and surveys;
- Desk-based studies;
- Review of existing information;
- Modelling;
- Review of relevant national and local planning policies;
- Consultation with the relevant statutory consultees and, where appropriate, non-statutory consultees; and
- Identification of sensitive receptors.

5.4 Assessment of Environmental Effects

5.4.1 For the purposes of this EIA Report, the terms used in the assessment of effects can be beneficial or adverse and are generally defined as follows:

- Temporary – where the effect occurs for a limited period of time and the change for a defined receptor can be reversed.
- Permanent – where the effect represents a long-lasting change for a defined receptor.

- Direct – where the effect is a direct result (or primary effect) 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 or as a result of a complex biological or chemical pathway.
- Secondary – an induced effect arising from the actions or presence of a project, such as changes to the pattern of future land use or improvements to local road networks.
- Cumulative – these effects may arise when other developments as well as other aspects of the same development combine to create a potentially greater impact than would result from individual effect(s) of the Proposed Development considered in isolation (see also **Section 5.6** of this chapter).
- Residual – the effect that would result from the Proposed Development after mitigation.

5.4.2 The result of the assessment is the determination of whether the potential effects of the Proposed Development on receptors within the Study Area for each topic would be significant or not significant, and, adverse or beneficial. 'Receptor' means the factors of the natural and built environment, including people and communities, that may be affected by the Proposed Development. Examples include cultural heritage, landscapes, populations, animal and plant species, and the water environment.

5.4.3 Where no published standards exist, the assessments presented in the technical chapters describe the professional judgements (assumptions and value systems) that underpin the attribution of significance. For certain technical topics, such as ecology, widely recognised published significance criteria and associated terminology have been applied, which are presented in the technical chapters and associated appendices where relevant.

5.4.4 The assessment of significance has considered the magnitude of change (from the baseline conditions), the sensitivity of the affected environmental factors / receptors and (in terms of determining residual effects) and the extent to which mitigation and enhancement can reduce or avoid adverse effects. In addition, further considerations such as those listed below have been factored into the assessment using professional judgement:

- Likelihood of occurrence;
- Geographical extent;
- The value of the affected resource or receptor; and
- Duration of the likely effect.

5.4.5 The magnitude (scale) of change for each effect has been identified and predicted as a deviation from the established baseline conditions, for the construction and operational phases of the Proposed Development. The scale generally used is high, medium, low, and negligible.

5.4.6 The sensitivity of the receptor / receiving environment to change has been determined using professional judgement, consideration of existing designations, such as Sites of Special Scientific Interest (SSSIs) and quantifiable data, where known.

5.4.7 Each effect has been assessed taking account of the predicted magnitude of change and the sensitivity of the receptor / receiving environment as shown in **Table 5.1**. This is then combined within each of the technical chapters in **Volume 2** of this EIA Report to determine an overall significance of effect. It should be noted that this approach may vary depending on topic-specific technical guidance. This is detailed within the technical chapters where relevant. Subject to any specific methodology explained in the relevant technical chapter, the general approach is that moderate and major effects are identified as significant effects in the context of the EIA Regulations, as shown in bold in **Table 5.1**.

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

5.5 Direct and Indirect Effects of Management Felling

5.5.1 Felling of trees is required to create an operational corridor (OC) to safely construct and maintain the OHL. The Proposed Development requires consent for an OC of up to 90 m (a distance of 45 m either side of the OHL) including associated felling within this area. The effects associated with felling for the OC are considered 'direct' effects and are presented as such in this EIA Report.

5.5.2 In some areas, the felling of forestry within the OC for the Proposed Development will expose previously sheltered trees to the wind. These trees will have previously been part of a larger forest compartment where there was an element of mutual support being provided. By felling the OC, this support will be removed, rendering any unstable forest edges facing the prevailing wind susceptible to 'windthrow effects', with these trees either falling or failing to reach their full crop potential.

5.5.3 Areas of additional proposed felling, known as management felling, may be required to reduce the risk of windthrow (see **Chapter 13: Forestry**). As the areas vulnerable to windthrow lie outwith the OC, the Applicant has no mechanism for felling and/or replanting these areas as part of any Section 37 consent. However, the Applicant is committed to liaising with landowners to agree that these areas be felled to mitigate the risk of forest damage through windthrow. The felling of these areas will require the agreement of the landowner, and will be delivered under a felling licence to be applied for by the landowner. It is reasonably anticipated that any felling licence will be granted on the basis that the felled woodland is commercial forestry, and will be replanted.

5.5.4 Should the landowner not agree to fell the trees and the trees subsequently suffer from windthrow, it is within the control of Scottish Forestry to ensure that these areas are replanted. As such, an assessment has been undertaken on the basis that any windthrow resulting from the felling to create the OC will require the relevant landowner to replant the same area of forest.

5.5.5 The assessments within the technical chapters of this EIA Report have made a distinction between the direct effects associated with felling within the OC and the indirect effect of management felling of areas outside of the OC. As the landowners in these areas will be required to replant these areas, the assessments have been undertaken on the basis that there will be no net loss of forestry, and that these areas will be replanted in accordance with Scottish Forestry policy.

5.6 Cumulative Effects

5.6.1 In accordance with the EIA Regulations, the assessment has considered 'cumulative effects'. 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 effects from the Proposed Development itself, or alongside separate existing or future development projects, could combine to cause a significant effect on a particular receptor.

5.6.2 There are two aspects to cumulative effects, defined as follows:

- **in-combination effects**: the combined effect of the Proposed Development together with 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**; and

- **effect interactions**: the combined or synergistic effects caused by the combination of a number of effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction and operational phases), which may collectively cause a more significant effect together than individually. A theoretical example is the culmination of disturbance from dust, noise, vibration, artificial light, human presence and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site. These are considered within **Chapter 17: Cumulative Assessment.**

5.6.3 The scope of in-combination effects is considered in relation to:

- the Proposed Development and other SSEN Transmission Accelerated Strategic Transmission Investment (ASTI) associated developments required to connect the Proposed Development to the network (referred to as “intra”); and
- the Proposed Development and other SSEN Transmission and third-party projects (referred to as “inter”).

5.6.4 The list of developments to be considered for both ‘intra-project effects’ and ‘inter-project effects’ within this EIA Report are set out in **Table 5.2** and **Table 5.3** (see also **Volume 3, Figure 5.1: Cumulative Developments**). Such developments include those for which consent has been granted, or future development for which it is reasonable to assume, at the date that the list of cumulative developments is frozen, that the developer will proceed with an application for consent. The final list of developments to be considered in the cumulative effects assessment was frozen at the end of March 2025, to allow sufficient time to compile this EIA Report.

Table 5.2: List of Projects considered for ‘intra-project’ effects

Development	Application Status	Sections of Relevance
Banniskirk 400 kV Substation and High-Voltage Direct Current (HVDC) Converter Station	Under Consideration	A
Carnaig 400 kV Substation	Under Consideration	B, C
Fanellan 400 kV Substation and HVDC Converter Station	Under Consideration	E

Table 5.3: List of Projects considered for ‘inter-project’ effects

Development	Application Status	Sections of Relevance
Banniskirk – Sinclair’s Bay HVDC UGC	Early Development	A
Banniskirk – Spittal 275 kV UGC Connection	Early Development	A
Ackron Wind Farm	Scoping Application Decision Issued	A
Ayre Offshore Wind Farm	Scoping Application Decision Issued	A
Baledigle Wind Farm	Scoping Application Decision Issued	A
Cairnmore Hill Wind Farm (Re-design)	Under Consideration	A
Camster II Wind Farm	Appeal Allowed	A
Cogle Moss	Application Permitted	A
Forsinain Forest Wind Farm	Scoping Application Decision Issued	A
Forss III Wind Farm	Application Permitted	A
Golticlay Wind Farm Redesign	Approved by Scottish Ministers	A
Hill of Lynchrobbie Wind Farm	Scoping Application Decision Issued	A

Development	Application Status	Sections of Relevance
Hollandmey Energy Development	Approved by Scottish Ministers	A
Kirkton Energy Park	Awaiting Decision	A
Limekiln Extension Wind Farm	Approved by Scottish Ministers	A
Limekiln Wind Farm	Approved by Scottish Ministers	A
Limekiln Wind Farm Connection	Under construction	A
Lochend Wind Farm Extension	Under Consideration	A
Loch Toftingall Battery Energy Storage System (BESS)	Under Consideration	A
Melvich Wind Energy Hub	Awaiting Decision	A
Ouglassy Wind Farm	Scoping Application Decision Issued	A
Slickly Wind Farm	Appeal Allowed	A
Strathy Wood Wind Farm Grid Connection	Under Consideration	A
Strathy South Wind Farm Grid Connection	Scoping Application Decision Issued	A
Swarclett Wind Farm	Under Consideration	A
Thurso BESS	Under Consideration	A
Tormsdale Wind Farm	S36 Raise Objection	A
Watten Wind Farm	Under Consideration	A
West of Orkney Wind Farm	Application Permitted	A
Acheilidh Wind Farm (formerly known as Lairg III)	S36 Raise Objection	B, C
Carnaig – Loch Buidhe 275 kV Sub UGC Connection	Early Development	B, C
Chleansaid Wind Farm	Approved by Scottish Ministers	B, C
Garvary Wind Farm	Under Consideration	B, C
Strath Oykel Wind Farm	Approved by Scottish Ministers	B, C
Strath Tirry Wind Farm	Application Permitted	B, C
Achany Extension Wind Farm	Approved by Scottish Ministers	C
Allt An Tuir Renewable Energy Park	Scoping Application Decision Issued	C
Balblair Wind Farm	Scoping Application Decision Issued	C
Braelangwell Wind Farm	Scoping Application Decision Issued	C
Coillie Beith Wind Farm	Scoping Application Decision Issued	C
Coille Linne (formerly known as Fiag) Wind Farm	Scoping Application Decision Issued	C
Creag Riabhach Extension Wind Farm	Approved by Scottish Ministers	C
Creag Riabhach Wind Farm Connection	Under Construction	C

Development	Application Status	Sections of Relevance
Inveroykel Wind Farm	Scoping Application Decision Issued	C
Lairg II Wind Farm Redesign	Application Permitted	C
Meall Buidhe Wind Farm	Appeal Allowed	C
Sallachy Wind Farm	Application Permitted	C
Shinness Wind Farm	Under Consideration	C
Abhainn Dubh Wind Farm	Under Consideration	D
Abhainn Dubh 132 kV OHL Wind Farm Connection	Screening Application EIA Required	D
Ceislein Wind Farm	Scoping Application Decision Issued	D
Creachan Wind Farm	Scoping Application Decision Issued	D
Carn Fearna Wind Farm	Scoping Application Decision Issued	D
Carn Fearna 132 kV OHL Wind Farm Connection	Awaiting decision	D
Tarvie Wind Farm	Scoping Application Decision Issued	D
Strathrory Wind Farm Redesign	Appeal Allowed	D
Western Isles HVDC UGC	Early Development	D, E
Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL	Scoping Application Decision Issued	E
Ballach Wind Farm	Scoping Application Decision Issued	E
Bhlaraidh Wind Farm Extension	Approved by Scottish Ministers	E
Carn Na Saobhaidh Wind Farm	Scoping Application Decision Issued	E
Chrathaich Wind Farm	S36 Raise No Objection	E
Cnoc Farasd Wind Farm	Scoping Application Decision Issued	E
Corriegarth 2 Wind Farm	Approved by Scottish Ministers	E
Loch Kemp Storage	Under Consideration	E
Loch Liath Wind Farm	Under Consideration	E
Lynemore Wind Farm	Scoping Application Decision Issued	E

5.6.5 A search radius of up to 30 km from the Proposed Development was used to identify projects with the potential for cumulative ornithological effects. Each of the individual technical chapters clarify the Study Area used for their assessment and in most cases, it is significantly less than 30 km (for example in **Chapter 7: Landscape and Visual** it is 10 km). It should also be noted that sufficient information may not be available as of March

2025 for all of the developments included above to enable a cumulative assessment to be undertaken. Where this is the case, this is clarified in the relevant technical chapter.

5.7 Approach to Mitigation

5.7.1 Mitigation measures are identified to prevent, reduce or remedy any potentially significant adverse environmental effects identified, beyond that already taken into account as standard best practice (i.e. embedded mitigation such as the measures set out in the Construction Environment Management Plan (CEMP)). Such embedded mitigation measures will be implemented during detailed design, construction and operation of the Proposed Development. Each technical chapter of this EIA Report details the measures recommended to mitigate identified significant effects, and a summary of the recommended mitigation measures is provided in **Chapter 19: Schedule of Mitigation**.

5.8 EIA Quality

5.8.1 In accordance with Regulation 5(5) of the EIA Regulations, by appointing Environmental Resources Management (ERM) Limited to coordinate this EIA Report for the Proposed Development, Scottish and Southern Electricity Networks Transmission (SSEN Transmission) has ensured that this EIA Report has been prepared by competent experts. This EIA Report meets the requirements of the Institute of Environmental Management and Assessment (IEMA)[1] EIA Quality Mark scheme. 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.

5.9 Structure of this EIA Report

5.9.1 Given the length of the Proposed Development, it has been split into five geographically defined 'sections'. These 'sections' are broadly defined as follows:

- Section A – Spittal to Brora
- Section B – Brora to Loch Buidhe
- Section C – Loch Buidhe to Dounie
- Section D – Dounie to Near Strathpeffer
- Section E – Near Strathpeffer to Beauly

5.9.2 These 'sections' are often used within the technical chapters to present the description of the baseline environment and in some cases to present the assessment of the Proposed Development. The approach taken varies by technical chapter as appropriate to the receptor being assessed and the requests of consultees. In all cases, the impact of the whole of the Proposed Development is assessed and the sections should be considered a mechanism to more clearly present the large volume of information. The specific approach taken is clarified in each of the technical chapters.

5.9.3 This EIA Report contains the environmental information required by the EIA Regulations and comprises the following volumes:

- Volume 1: Non-Technical Summary
- Volume 2: Main Report
- Volume 3: Figures
- Volume 4a: Visualisations to NatureScot guidelines[2]

[1] The Institute of Environmental Management and Assessment (IEMA) are changing its name to The Institute of Sustainability and Environmental Professionals (ISEP) with the new ISEP brand launching in mid-July 2025. There will therefore be a period of time where both names are used and as such IEMA is used in this EIA Report.

[2] Scottish Natural Heritage (SNH), (2017), Visual Representation of Wind Farms (Version 2.2) (SNH, 2017)

- Volume 4b: Visualisations to The Highland Council guidelines[3]
- Volume 5: Appendices to support each of the chapters in this EIA Report where required

5.9.4 **Volume 1** contains the Non-Technical Summary which describes the Proposed Development and the potential significant effects using concise, non-technical language.

5.9.5 **Volume 2** contains the main EIA Report and includes the following chapters:

- 1: Introduction and Background
- 2: Established Need for the Proposed Development
- 3: Description of the Proposed Development
- 4: The Routeing Process and Alternatives
- 5: EIA Process and Methodology
- 6: Scope and Consultation
- 7: Landscape and Visual
- 8: Ecology and Nature Conservation
- 9: Ornithology
- 10: Water Environment
- 11: Geological Environment
- 12: Cultural Heritage
- 13: Forestry
- 14: Traffic and Transport
- 15: Noise and Vibration
- 16: Tourism and Recreation
- 17: Cumulative Assessment
- 18: Summary of Effects
- 19: Schedule of Mitigation

5.9.6 **Volume 3** contains supporting figures referred to in **Volumes 1 and 2** of this EIA Report.

5.9.7 **Volume 4 (a and b)** comprises photomontage visualisations of the Proposed Development from a series of viewpoints.

5.9.8 **Volume 5** comprises supporting appendices for Volume 2 of this EIA Report. Appendices include further detailed reporting or information to support this EIA Report and technical assessments contained therein. Other notable appendices include the shadow Habitat Regulations Assessment (HRA) where the Proposed Development crosses through, or within the vicinity of, sites of European nature conservation importance.

5.10 Supporting Documents

5.10.1 The Section 37 application will also include the following supporting documents:

- Aviation Report which assesses the potential impact of the Proposed Development upon licensed airports and radar as well as civil and military aviation activity operating in proximity to the proposed OHL;
- Electric and Magnetic Fields (EMF) Report which demonstrates the project-specific compliance of the electricity transmission systems for the Proposed Development with the UK guidelines on EMF exposure;

[3] The Highland Council (THC), (2016), Visualisation Standards for Wind Energy Developments (THC, 2016)

- Planning Statement which considers the compatibility of the Proposed Development in the context of existing and emerging development plans and national energy and planning policies;
- Pre-Application Consultation Report (PAC Report) which provides detail of the consultation events and engagement that have been undertaken; and
- Socio-Economic Report which offers a holistic view of the Proposed Development's (and other ASTI projects) impact on social and economic activities in the wider region.