

Volume 2: Chapter 1 – Introduction and Background

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Appendices (Volume 4 of this EIAR)

There are no appendices associated with this Chapter.

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Figure 1.1: Location Plan

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

- 1.1.1 This Environmental Impact Assessment Report (EIAR) has been prepared by LUC on behalf of Scottish Hydro Electric Transmission plc (the Applicant) who, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands.
- 1.1.2 This EIAR accompanies the Applicant's application for Consent to the Scottish Ministers under Section 37 of the *Electricity Act 1989* to divert short sections of the Alyth to Tealing Overhead Line (OHL) and Tealing to Westfield 275 kilovolt (kV) OHL, which currently connect with the existing Tealing 275 kV Substation, to connect with the proposed Emmock 400 kV substation; and for the installation of two short sections of parallel 275 kV OHL "tiebacks" (TT), the East TT and West TT, between the Emmock and existing Tealing substations. A full description and definition of the Proposed Development and its ancillary works is set out within **Volume 2, Chapter 3: Project Description** of this EIAR. In this EIAR the location of the OHLs that comprise the Proposed Development are illustrated in **Figure 1.1: Location Plan**.
- 1.1.3 The Proposed Development is being planned in parallel with separate SSEN Transmission projects to reconnector the Alyth to Tealing and Tealing to Westfield 275 kV OHLs to 400 kV for tie-in to Emmock Substation. Section 37 applications for these reconductoring projects were submitted on 28 June 2024 (Alyth to Tealing) and 4 July 2024 (Tealing to Westfield). Planning applications for consent for the Emmock 400 kV substation were submitted to Angus Council on 18 November 2024, and for Hurlie 400 kV substation on 28 November 2024, respectively. An application to the Scottish Government under Section 37 of the *Electricity Act 1989* for the proposed new Kintore to Tealing 400 kV OHL was made on the 29th September 2025 (ECU reference ECU00005225).
- 1.1.4 This EIAR presents the findings of the Environmental Impact Assessment (EIA) undertaken in accordance with *Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*¹² (EIA Regulations). This EIAR presents information on the identified likely significant effects of the Proposed Development in order to inform the decision-making process. It also supports the Applicant's duties under Schedule 9 to the *Electricity Act 1989* to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest and to do what the Applicant reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.
- 1.1.5 The terms "Applicant" and "SSEN Transmission" are used interchangeably throughout this EIAR.

1.2 The Applicant

SSEN Transmission has a statutory duty under Section 9 of the *Electricity Act 1989* to develop and maintain an efficient, co-ordinated and economical system of electrical transmission in its licence area. Where there is a requirement to extend, upgrade or reinforce its transmission network, SSEN Transmission's aim is to provide an environmentally aware, technically feasible and economically viable solution which would cause the least disturbance to the environment and to people who use it.

¹ 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>.

² Scottish Government. Sections 36 and 37: applications guidance. [Online] Available at: <https://www.gov.scot/publications/good-practice-guidance-applications-under-sections-36-37-electricity-act-1989/>

1.3 Background

- 1.3.1 In July 2022, the National Energy System Operator (NESO³), published the *Pathway to 2030 Holistic Network Design (Pathway to 2030 HND)*⁴ and the *Network Options Assessment 2021/22 Refresh*⁵, setting out the blueprint for the onshore and offshore electricity transmission network infrastructure required to enable the forecasted growth in renewable electricity across Great Britain, including the UK and Scottish Governments' 2030 offshore wind targets of 50 gigawatts (GW) and 11 GW respectively.
- 1.3.2 The extensive studies completed to inform the NESO's *Pathway to 2030 HND* and *Networks Options Assessment 2021/22 Refresh* confirmed the requirement to increase the power transfer capacity of the onshore corridor from Kintore to Tealing. This requires a new 400 kV connection between these locations to enable the significant power transfer capability needed to take power from onshore and large scale offshore renewable generation, which is proposed to connect at onshore locations on the East Coast of Scotland and transport it to areas of demand.
- 1.3.3 A more detailed explanation of the wider network upgrades need is set out in **Volume 2, Chapter 2: Established Need for the Proposed Development** of this EIAR.

New Transmission Infrastructure

- 1.3.4 The Proposed Development is part of the wider network upgrades required to support and ensure the connection of the new 400 kV OHL between Kintore and Tealing, submitted under a separate Section 37 application (ECU reference ECU00005225). This also requires the following wider project upgrades subject to separate planning applications or Section 37 Consent:
- A new 400 kV substation to be constructed at Tealing (approximately 5 km to the north of Dundee, known as the proposed Emmock substation, planning reference 24/00699/FULN⁶); and
 - A new 400 kV substation to be constructed at Fetteresso Forest (approximately 7 km west of Stonehaven, known as the proposed Hurlie substation, planning reference APP/2024/1951⁷).
- 1.3.5 These substations are required to enable future connections to the electricity transmission network and export routes to areas of demand.

Reconductoring Projects

- 1.3.6 In addition, two existing 275 kV OHLs require upgrades. These upgrades are to enable operation at 400 kV and to allow them to be connected to the proposed new Emmock 400 kV substation and are also subject to separate applications for consent:
- The Alyth to Tealing OHL (Energy Consents Unit (ECU) reference number ECU00005167)⁸; and
 - Tealing to Westfield OHL (ECU reference number ECU00005168)⁹.
- 1.3.7 A Screening Report¹⁰ was also produced to address tie-ins and tie-backs between the Emmock and Tealing substations and the Proposed Development (ECU reference number ECU00005204).

³ The ESO was replaced by the National Energy System Operator in 2024.

⁴ National Grid ESO, July 2022. *Pathway to 2030 HND*. [Online] Available at: <https://www.neso.energy/document/262676/download>.

⁵ National Grid ESO, July 2022. *Network Options Assessment 2021/22 Refresh*. [Online]. Available at: <https://www.neso.energy/document/262981/download>.

⁶ SSEN Transmission (November 2024) Emmock Substation Planning Application 24/00699/FULN. Available at: <https://planning.angus.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=SN6VOFCFMUA00>.

⁷ SSEN Transmission (December 2024) Hurlie Substation Planning Application APP/2024/1951. Available at: <https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=SNUVKWCAJ2G00>.

⁸ SSEN Transmission (June 2024) Alyth to Tealing OHL 400kV Upgrade (Reconductoring) Planning Application. Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005167>.

⁹ SSEN Transmission (July 2024) Tealing to Westfield OHL 400kV Upgrade (Reconductoring) Project Planning Application. Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005168>.

¹⁰ SSEN Transmission (September 2024) LT455 Proposed Emmock and Tealing Overhead Line Tie-ins – Screening Request. Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005204>.

- 1.3.8 These wider project upgrades do not form part of the Proposed Development and are therefore not assessed as such in this EIAR, although the consideration of the potential for cumulative effects with the Proposed Development is considered, where relevant.

UK and Scottish Government Climate Targets

- 1.3.9 These wider network upgrades have been determined as critical to enable the delivery of the UK and Scottish Government's climate goals and renewable energy targets. These wider project upgrades also contribute towards ensuring energy security and supporting Scottish and UK Government targets for a just transition to a net zero future. The Proposed Development fulfils the following requirements:
- Addressing Climate Change: The UK and Scottish Governments have ambitious targets to combat climate change and guarantee a secure and reliable supply of energy. The UK is aiming for 50 GW of offshore wind-generated electricity by 2030. SSEN Transmission's *Pathway to 2030 HND* projects have been identified to help achieve such targets by delivering the vital infrastructure required.
 - Promoting Energy Independence: In 2022, the UK Government set out a strategy¹¹ to reduce dependence on volatile global gas markets, moving to local, sustainable electricity sources instead. Establishing the necessary infrastructure for this is critical.
 - Planning for Future Need: NESO carries out extensive analysis and research to predict the UK's future energy needs. This information is then carefully considered to guide infrastructure upgrade decisions.
 - Approved by Ofgem: Britain's independent energy regulator, Ofgem, granted approval for the *Pathway to 2030 HND* projects in December 2022¹² as part of its strategy for accelerated network upgrades.

1.4 The Section 37 Application

- 1.4.1 The application seeks Consent under Section 37 of the *Electricity Act 1989* to construct and operate the diversion of the final easterly sections of two existing OHLs (Alyth – Tealing and Tealing to Westfield 275 kV OHLs) for tie-in to the proposed Emmock 400 kV substation and for a 275 kV tie-back between Emmock substation and the existing Tealing Substation. The alignments of the proposed OHL diversions and tie-back connections are described further in **Volume 2, Chapter 3: Project Description** and shown in **Volume 3, Figure 1.1: Location Plan**.
- 1.4.2 The Proposed Development is located in the Local Authority area of Angus, approximately 5 km north of the city of Dundee, in a predominantly agricultural area interspersed, particularly to the north of the Site¹³, by a few small woodland plantations and farm shelterbelts. The Proposed Development and the immediate surroundings are shown in **Volume 4, Figure 3.1: Proposed Development**.
- 1.4.3 The wider setting of the Proposed Development consists of an area of lowlands between the northern fringe of Dundee and the line of the Sidlaw Hills, forming a broad strath of gently sloping ground from south to north across the area crossed by the existing Alyth to Tealing and Tealing to Westfield 275 kV OHLs. The village of Kirkton of Tealing is located approximately 1 km northeast of the Site. The settlement of Tealing lies approximately 1.5 km to the northeast of the Site. Two notable exceptions to the general pattern of the wider landscape are: Craigowl Hill, some 2 km north of the Site, with its associated elevations and woodland to the northwest; and the existing Tealing Substation to the southeast along with its associated infrastructure, including the Alyth to Tealing 275 kV and Tealing to Westfield 275 kV OHLs connecting to the existing Tealing Substation, which will be reconducted under a separate consenting process, while being diverted as part of the Proposed Development.
- 1.4.4 An EIA has been undertaken for the Proposed Development in accordance with the EIA Regulations to assess the likely significant effects of the Proposed Development. The findings of the EIA are presented in this EIAR including

¹¹ HM Government, 2022. *British energy security strategy*. [Online] Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>.

¹² Ofgem, 2022. *Decision on accelerating onshore electricity transmission investment*. [Online] Available at: <https://www.ofgem.gov.uk/decision/decision-accelerating-onshore-electricity-transmission-investment>.

¹³ The Site is the land on which the Proposed Development is located.

the measures which would be taken to avoid, reduce, and, wherever possible, offset predicted likely significant adverse effects.

1.5 Legal and Policy Context

1.5.1 As referenced above, Consent for the Proposed Development is sought from Scottish Ministers under Section 37 of the *Electricity Act 1989*, which is the primary legislation governing the development of electrical transmission infrastructure in Great Britain, and places statutory and licence obligations upon a transmission licence holder. Consent is also sought for development ancillary to the main OHL that is the subject of the Section 37 Consent application. Under Section 57(2) of the *Town and Country Planning (Scotland) Act 1997*¹⁴ (as amended), upon the granting of a Consent under Section 37 to the *Electricity Act 1989* the Scottish Ministers may direct that planning permission for that development shall be deemed to be granted. Deemed planning permission under Section 57 of the 1997 Act is therefore being sought from the Scottish Ministers in terms of this application.

1.5.2 The Applicant, as a transmission licence holder, has a statutory duty under paragraph 1 of Schedule 9 of the *Electricity Act 1989* “when formulating proposals to generate, transmit, distribute or supply electricity” to:

“have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest”; and

“do what [it] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”

1.5.3 The Applicant has complied with those duties, reflected in this EIAR and other supporting material.

1.6 The Need for EIA

1.6.1 The Proposed Development is not classified as Schedule 1 development under the EIA Regulations by virtue of it not falling within the criteria “construction of overhead electrical power lines with a voltage of 220 kilovolts or more and a length of more than 15 kilometres”. While the voltage is greater than 220 kilovolts, the total length of overhead electrical power lines is less than 15 kilometres. A formal Screening Opinion was sought from the ECU as noted below.

1.6.2 A Screening Opinion was issued by Scottish Ministers (ECU00005204) on 13 November 2024, and concluded that the Proposed Development falls within Schedule 2 of the EIA Regulations, that the Proposed Development constitutes EIA development, and that any forthcoming application for Consent (under Section 37 of the *Electricity Act 1989*) requires to be accompanied by an EIAR.

1.6.3 The EIAR provides environmental information in accordance with the EIA Regulations, particularly under regulations 4 and 5 and Schedule 4.

1.6.4 A request for a Scoping Opinion was subsequently made to the Scottish Ministers under Regulation 12 of the EIA Regulations in April 2025. A Scoping Report¹⁵ was submitted (ECU Reference: ECU00005225) to support the request, which sought input from statutory and non-statutory consultees regarding the information to be provided within this EIAR.

1.6.5 The Scoping Opinion¹⁶ of the Scottish Ministers was issued on 28 May 2025. In accordance with regulation 5(3) of the EIA Regulations this EIAR is based upon the Scoping Opinion, and provides the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the Proposed Development on the

¹⁴ Scottish Government, 1997. *Town and Country Planning (Scotland) Act 1997*

¹⁵ SSEN 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>.

¹⁶ Energy Consents Unit, December 2024. *Scoping Opinion on behalf of Scottish Ministers under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017*. [Online] Available at: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00005225>.

environment, taking into account current knowledge and methods of assessment. Further details are provided in **Volume 2, Chapter 6: Scope and Consultation**, and associated appendices.

1.7 EIAR Structure

1.7.1 This EIAR consists of the following volumes:

- **Volume 1, Non-Technical Summary**;
- **Volume 2, Chapters**;
- **Volume 3, Figures**; and
- **Volume 4, Appendices** (to support each of the Chapters of the EIAR where required).

1.7.2 **Volume 1, Non-Technical Summary** is standalone document which describes the Proposed Development and the likely significant effects predicted in a concise, non-technical manner.

1.7.3 **Volume 2, Chapters** provides the main text of the EIAR and consists of the following:

- **Chapter 1: Introduction and Background** (this chapter) provides an introduction to the Proposed Development, the need for an EIAR and sets out the structure of the report;
- **Chapter 2: Established Need for the Proposed Development** sets out the needs case and requirement for the Proposed Development;
- **Chapter 3: Project Description** contains a more detailed description of the Proposed Development;
- **Chapter 4: Consideration of Alternatives** considers alternative layouts and technologies;
- **Chapter 5: EIA Process and Methodology** presents the assessment methodology applied in the evaluation of environmental effects and the approach to mitigation;
- **Chapter 6: Scope and Consultation** sets out the Scoping process and consultation undertaken to determine the scope of the EIAR;
- **Chapter 7: Landscape and Visual Amenity** presents the findings of the assessment of the likely significant effects of the Proposed Development on landscape and visual receptors and includes a Residential Visual Amenity Assessment (RVAA);
- **Chapter 8: Cultural Heritage** presents the findings of the assessment of the likely significant effects of the Proposed Development on cultural heritage;
- **Chapter 9: Ornithology** presents the findings of the assessment of the likely significant effects of the Proposed Development on ornithological receptors;
- **Chapter 10: Noise and Vibration** presents the findings of the assessment of the likely significant noise and vibration effects of the Proposed Development on sensitive receptors;
- **Chapter 11: Cumulative Effects** presents a summary of the in-combination effects resulting from the Proposed Development and any reasonably foreseeable developments (as presented in **Volume 2, Chapters 7-10**). This chapter also provides a qualitative assessment of the potential for interactive effects;
- **Chapter 12: Summary of Effects** presents a summary of the environmental effects as a result of the Proposed Development, identified within **Volume 2, Chapters 7-11** of this EIAR; and
- **Chapter 13: Schedule of Environmental Mitigation** collates the mitigation measures and environmental management commitments which are presented in each of the technical chapters in **Volume 2, Chapters 7-10** of this EIAR.

1.7.4 **Volume 3, Figures** contains supporting figures which are referred to in **Volume 2, Chapters** of the EIAR as applicable.

1.7.5 **Volume 3** also includes **Visualisations (Figures 7.5-7.7 Landscape and Visual Amenity and Figures 8.3-8.5 Cultural Heritage)** which comprise photomontages and wireline visualisations of the Proposed Development from a series of viewpoints that have been prepared in accordance with the relevant guidance from NatureScot, Angus Council, Historic Environment Scotland (HES) and Aberdeenshire Council Archaeology Service (ACAS).

- 1.7.6 **Volume 4, Appendices** comprises supporting appendices to **Volume 2, Chapters** of the EIAR. Appendices include further detailed reporting or information to support the EIAR and technical assessments contained therein.
- 1.7.7 Other supporting documents submitted as part of the Section 37 application, but separate to the EIAR include:
- a **Planning Statement** which considers the compatibility of the Proposed Development in the context of existing and emerging development plan and national energy and planning policies;
 - an **Electric and Magnetic Fields (EMF) Compliance Report** which includes analyses undertaken by the SSEN Transmission engineering team, and which demonstrates EMFs would be below the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guideline levels¹⁷;
 - a completed **Marine Directorate – Science Evidence Data and Digital (MD-SEDD) Checklist** as requested in the Scoping Opinion; and
 - A **Pre-Application Consultation Report (PAC Report)** which sets out what has been done in relation to pre-application consultation with the public to accord with the guidance².

1.8 Notifications

- 1.8.1 In accordance with the Electricity (Applications for Consent) Regulations 1990, and Regulation 14 of the EIA Regulations, the Section 37 application will be advertised in the national newspaper, the Edinburgh Gazette, as well as local newspapers, including the Courier.
- 1.8.2 Notice of the Section 37 application, including this EIAR and associated documents and figures, will be available for viewing at the following public locations during normal opening hours:
- Forfar Library, 50-56 W High St, Forfar DD8 1BA;
- 1.8.3 An electronic version is available online at: <https://www.ssen-transmission.co.uk/projects/project-map/kintore-tealing-400kv-ohl-connection/>.
- 1.8.4 This EIAR is available in other formats if required. For details, including costs, contact:

Via email to: jamie.watt@sse.com

OR

By writing to:

For the Attention of Jamie Watt
SSEN Transmission
Grampian House
200 Dunkeld Road
Perth
PH1 3AQ

¹⁷ ICNIRP, 1998. *Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz)*. [Online] Available at: <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>.