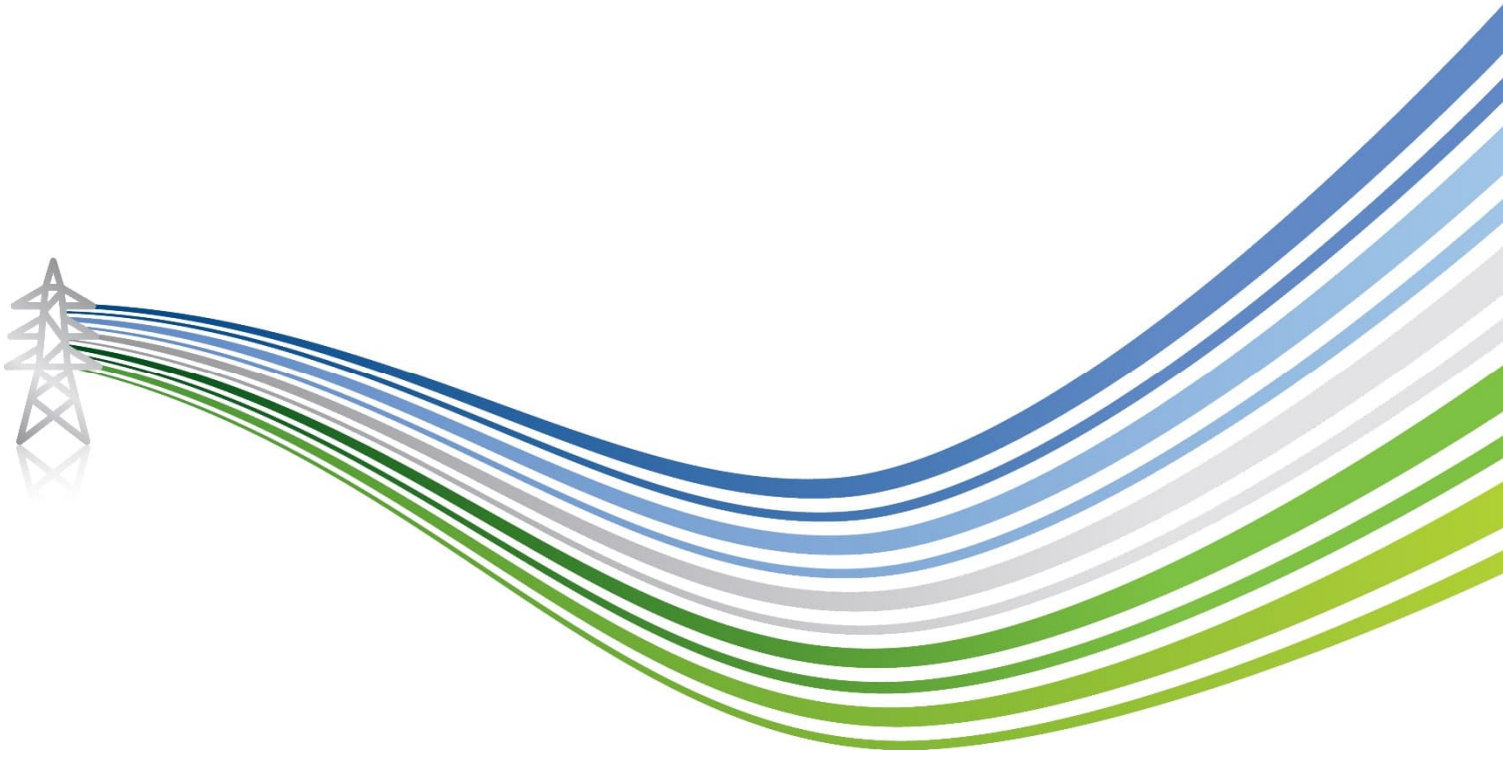
Scottish & Southern Electricity Networks

TRANSMISSION

Environmental Impact Assessment (EIA) Report

LT383 Alyth to Tealing Overhead Line (OHL) 400kV Upgrade

November 2024



VOLUME 2: CHAPTER 2 – PROJECT NEED AND STRATEGY

Figures (Volume 3 of this EIA Report)

There are no Figures associated with this chapter.

Appendices (Volume 4 of this EIA Report)

There are no Appendices associated with this chapter.

2. PROJECT NEED AND STRATEGY

2.1 Overview

2.1.1 This chapter explains the need for the Proposed Development, and the strategic options considered for the purposes of identifying the optimal design solution to meet the electricity transmission infrastructure requirements that are the drivers for the reinforcement of the existing OHL transmission.

2.1.2 The Applicant has a statutory duty under Schedule 9 of the Electricity Act to develop and maintain an efficient, coordinated and economical electrical transmission system in its licence area. Where there is a requirement to extend, upgrade or reinforce its transmission network, the Applicant'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.

2.2 The Need for the Proposed Development

2.2.1 The Needs Case is an evidence-based case that sets out the economic justification for the replacement of the existing 275 kV OHL between substations at Alyth and Tealing.

2.2.2 The UK Government's British Energy Security Strategy (ESS)[1] set out a series of steps to accelerate the transition away from reliance on expensive and environmentally harmful fossil fuels (reducing impact from global gas wholesale markets). The ESS set out ambitious targets to promote energy security, including connection of up to 50 gigawatts (GW) of offshore wind capacity by 2030, however the existing onshore transmission network cannot currently support this substantial growth in renewable electricity generation.

2.2.3 In July 2022, the ESO[2] published their 'Pathway to 2030 Holistic Network Design'[3], 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, to meet 2030 targets. In the development of the Holistic Network Design, several reinforcement options provided by SSEN Transmission were assessed alongside offshore coordinated network solutions provided by the ESO. For the north of Scotland, this process confirmed the need for significant investment in onshore transmission infrastructure to deliver 2030 targets, requiring accelerated development and delivery.

2.2.4 Given the scale and pace of the required investment across the electricity transmission system in Great Britain, Ofgem proposed a package of measures in August 2022 aiming to facilitate accelerated delivery by the Transmission Owners, implementing a new Accelerated Strategic Transmission Investment (ASTI) regulatory framework to fund the large strategic onshore transmission projects required to deliver the Government's 2030 ambitions. In December 2022, SSEN Transmission submitted to Ofgem their plan to deliver the required strategic investment in the transmission network for the north of Scotland where they set out their commitment to accelerate the construction of nine projects. These nine projects were included in Ofgem's decision (published December 2022) on accelerating onshore electricity transmission investment, which confirmed that all nine projects are required and meet the ASTI criteria which includes (a) the need to be operational by 2030, and (b) there is clear evidence that it is of benefit to the consumer to apply the accelerated delivery framework to the project[4].

2.2.5 The Proposed Development is one of these nine projects. It is also part of a smaller group of projects collectively known as East Coast 400 kV Phase 2. This comprises the existing 275 kV OHL connecting the existing Tealing

[1] Gov.uk (2022) British energy security strategy (online) Available: https://www.gov.uk/government/publications/british-energy-security-strategy [Accessed: June 2024)

[2] The ESO was replaced by the National Energy System Operator in 2024.

[3] National Grid, Electricity System Operator (ESO) (2022), Pathway to 2030 Holistic Network Design (HND) (online) Available at: https://www.nationalgrideso.com/document/262681/download [Accessed: July 2024]

[4] Ofgem (2022) Decision on accelerating onshore electricity transmission investment (online) Available at: https://www.ofgem.gov.uk/sites/default/files/2022-12/ASTI%20decision%20doc%20-%20Final_Published.pdf [Accessed June 2024]

Substation with the licence boundary with Scottish Power Energy Networks (SPEN) (Westfield/Glenrothes) (mid span Towers 66 and 65) which will be upgraded to be 400 kV capable, and a new 400 kV OHL between Tealing and Kintore. Two new 400 kV substations will be constructed to enable future connections to the electricity transmission network and export routes to areas of demand: one at Tealing (close to Dundee, the proposed Tealing (Emmock) substation to which Alyth-Tealing-Westfield upgraded OHLs will eventually be connected); and at Fetteresso Forest (west of Stonehaven, the proposed Hurlie substation). These works will be subject to separate Section 37 consents and planning consents.

2.2.6 The consideration of alternatives that has been undertaken to arrive at the final design of the Proposed Development, is provided in Chapter 4: Alternatives Considered (Volume 2).

2.3 Lifecycle Emissions from New Projects

2.3.1 SSEN Transmission's net carbon impact is positive due to the significant carbon savings from the renewable electricity connected and transmitted. However, carbon emissions arise from the construction programme which is expected to grow as SSEN Transmission deliver the projects identified within the Pathway to 2030. SSEN Transmission are committed to managing and mitigating the emissions that arise from this capital programme as much as possible through using low carbon materials and construction methods, and continually improving the ways in which they measure, monitor, and improve their practice in relation to emissions. The PAS2080 standard, the British Standard for carbon management in buildings and infrastructure, is at the heart of SSEN Transmission's efforts and alignment with this standard guide SSEN Transmission's approach to managing capital carbon emissions.