Scottish & Southern Electricity Networks

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5, Appendix 13.1 – AH: Woodland Reports

Ardochy Wood

July 2025

Scottish & Southern Electricity Networks

Contents

1. Introduction

1.1 Scottish and Southern Electricity Networks (SSEN) Transmission, hereafter referred to as 'the Applicant', owns, operates, develops and maintains the high voltage electricity transmission system in the north of Scotland and the Scottish islands. Due to the growth in renewable electricity generation in the north and north-east of Scotland, upgrade of the transmission network is required to provide the necessary increase in transmission capacity. The Applicant is applying for consent under Section 37 of the Electricity Act 1989 to construct and operate a new double circuit 400 (kilovolt) kV overhead line (OHL).

1.2 This report provides an assessment of woodland impact related to the Spittal to Loch Buidhe to Beauly 400 kV OHL Connection project (the 'Proposed Development'). The report details the woodland area affected by the Operational Corridor (OC), new access tracks (permanent), and additional felling required due to windblow risk within individual ownerships. It also includes mitigation considerations and compensatory planting recommendations.

2. Purpose of this Woodland Report

2.1 As part of the Environmental Impact Assessment (EIA) process, it was identified that construction of the OHL and associated access tracks would cross a number of woodland areas within both public and private landholdings. The landholding property boundaries are identified in **Figure 1: Woodland Impacted by the Proposed Development**.

2.2 This document provides an assessment of the woodland areas that are affected by the Proposed Development, including the requirement for woodland removal and management recommendations to mitigate the impact of the woodland removal.

2.3 Field surveys of the woodland areas have been undertaken and have been used to determine the various woodland characteristics to identify the woodland removal required and recommended. This document also sets out the area, in hectares (ha), of compensatory planting required to ensure no net loss of woodland is achieved.

3. Woodland Property

3.1 Ardochy Wood Forest is a privately owned woodland located approximately 8 km southwest of the village of Beauly. The nearest public road is the A831, with the closest access via a minor road through Breakachy. The site itself lacks formal infrastructure, with only a few informal off-road vehicle tracks present. Refer to **Figure 1: Woodland Impacted by the Proposed Development.**

3.2 The property is located at NH 45871 43334, west of the A831 public road.

4. Development Requirements

4.1 400 kV Operational Corridor

4.1.1 With reference to **Figure 1: Woodland Impacted by the Proposed Development**, the OHL sections relevant to Ardochy wood extend to over 170 m north of Tower S224 to over 180 m south of same Tower S224.

4.1.2 The Study Area for this assessment is based around an operational corridor of 90 m. The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of creation of new OHL, resilience and maintenance of OHLs, or protection of electrical plant as required by the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002 regulations and The Electricity Act 1989. The OC is defined as to the distance at which a tree could fall and cause damage to the OHL, resulting in a supply outage. As a result, the final OC width would be based on the safety distance required from the OHL centreline to allow for a mature tree falling towards the OHL, taking account of topography and tree height at maturity.

4.1.3 The OC width that has been assessed and identified for the safe build and energisation of the new OHL through areas of conifer woodland is 90 m (45 m either side of the OHL centreline). Further details can be found in **Section 13.3** of **Volume 2, Chapter 13: Forestry** which outlines the extent of the study area.

4.1.4 The OC width that has been assessed and identified for the safe build and energisation of the OHL through the areas of broadleaves is also 90 m (45 m either side of the OHL centreline). This has been assessed as a maximum OC width required at these woodland locations, with the potential of further narrowing of the OC prior to construction to allow greater tree retention depending on factors such as tree height, topography, crown reduction or other mitigation strategies[1].

4.1.5 Within Ardochy, a special arrangement feature has been implemented to facilitate the safe and efficient crossing of two overhead lines: the existing 132 kV double circuit line and the Proposed Development. This feature is designed to manage the intersection of these lines while minimising operational and environmental impacts during construction and ongoing maintenance.

[1]As specified by the 'Red Zone' set out in paragraph 41 of the Forest Industry Safety Accord. (2020) Safety Guide 804 Electricity at Work: Forestry. [pdf] Available at: FISA 804 (ukfisa.com).

4.2 Access Track Route Design

4.2.1 There is no suitable infrastructure within the property that provides access to the woodlands in proximity to the Proposed Development; however, new sections of permanent access tracks will be constructed within and outside the OC.

4.2.2 These access tracks will serve as the primary vehicle access route for the Proposed Development, as illustrated in **Figure 1: Woodland Impacted by the Proposed Development**, and will undergo maintenance and upgrades as part of the construction scope.

4.2.3 New access tracks, also detailed in **Figure 1: Woodland Impacted by the Proposed Development** will be built to service Tower S224.

4.2.4 The access track corridor width required for clearing through the woodland is 20 m (10 m on either side of the centreline), but this will be evaluated in situ to determine the suitability for further tree retention.

4.2.5 The construction of these new access tracks will increase the impact of woodland removal along routes located outside the OC. The affected woodland along the new access tracks will consist of a similar composition to that found within the OC, featuring a combination of coniferous woodlands. Refer to **Table 9.1** below.

4.2.6 Tree felling, stump removal and residue mulching will be required for the installation of new access tracks and at each tower location for the formation of temporary construction working areas.

4.2.7 These access tracks can serve as the main arterial construction route. Tree felling and timber extraction would be able to utilise existing tracks whenever available, prior to any construction activity.

4.2.8 Where existing tracks require maintenance or upgrading, this may involve the removal of trees and scrub to facilitate the works, particularly to accommodate the creation of additional passing places. While much of the upgrade activity would fall within standard forest access maintenance, which typically involves the removal of scrub, regeneration, and crown management, some sections may require additional tree clearance within a corridor of up to 12 m in width.

5. Woodland Characteristics

5.1 A desk-based study of the woodland areas was conducted, to identify current woodland environmental designations and classifications.

5.2 The web-based data provided by Scottish Forestry and referencing the Scottish Government's Ancient Woodland Inventory (AWI), and

- The Scottish Forestry Map Viewer provides spatial data on the Native Woodland Survey of Scotland (NWSS) and classifies the woodland types into four categories[2] [3]:

1. Native woodland
2. Nearly-native woodland
3. Open land habitat
4. Plantations on Ancient Woodland Sites (PAWS)

5.3 The forest is situated on a gently sloping, south-facing terrain at an elevation of approximately 200 m above sea level surrounded by hills and undulating lowlands with gentle and strong slopes.

5.4 Within this setting, the Proposed Development primarily crosses areas containing scattered individual trees and clusters of regenerating Scots pine. Refer to **Plate 1**. While the woodlands affected by the OC are not formally classified, a small area of Native pinewood, identified under the NWSS, is located along the route of one of the proposed permanent access roads associated with the development. Refer to **Table 5.1**.

Table 5.1: Woodland Designations

Item	Type of Infrastructure	Woodland Designations	Area (ha)
Operational Corridor	Permanent	NWSS- Native woodland	0.04
Access Track Corridor	Permanent	NWSS- Native woodland	0.38

[2] Scottish Forestry Map Viewer URL https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18

[3] Scottish Forestry Native Woodland Survey of Scotland: Glossary of Terms; URL: Main Title (forestry.gov.scot)
Native Woodland – woods where the canopy cover is composed mainly of native species (i.e., over 50%).
Nearly Native Woodland - where native species make up between 40% and 50% of the canopy. These are woods that could have potential to be converted into native woodlands by altering their species mix.
Open Land Habitat – areas with <20% canopy cover of trees and shrubs adjoining a native woodland.
PAWS - Plantation on Ancient Woodland Sites. These are surveyed in the NWSS where they are recorded in the Scottish ancient woodland inventory (SAWI). These woodlands appear to have originated through natural regeneration sometime before the mid-19th century, but were later converted to planted wood.

Plate 1- A native woodland area classified as Native pinewood, located at grid reference NH 45918 43682, is characterised by Scots pine trees with an average height of approximately 15 m. The understorey includes juniper and rank heather, with limited evidence of natural regeneration present.

5.5 Within the OC, clusters of Scots pine are scattered across predominantly open ground, consisting of naturally regenerated saplings. These trees present an average height of approximately 4 m. This area lacks the distinct natural pinewood characteristics found in classified sites elsewhere within the ownership. Refer to **Plate 2**.

5.6 The OC route towards the southeast of Tower S224 follows a natural gap in the landscape, situated between established semi-mature Scots pine, classified as Native pinewood under the NWSS, and a young Scots pine plantation, where trees are primarily around 1 m in height. Refer to **Plate 3**.

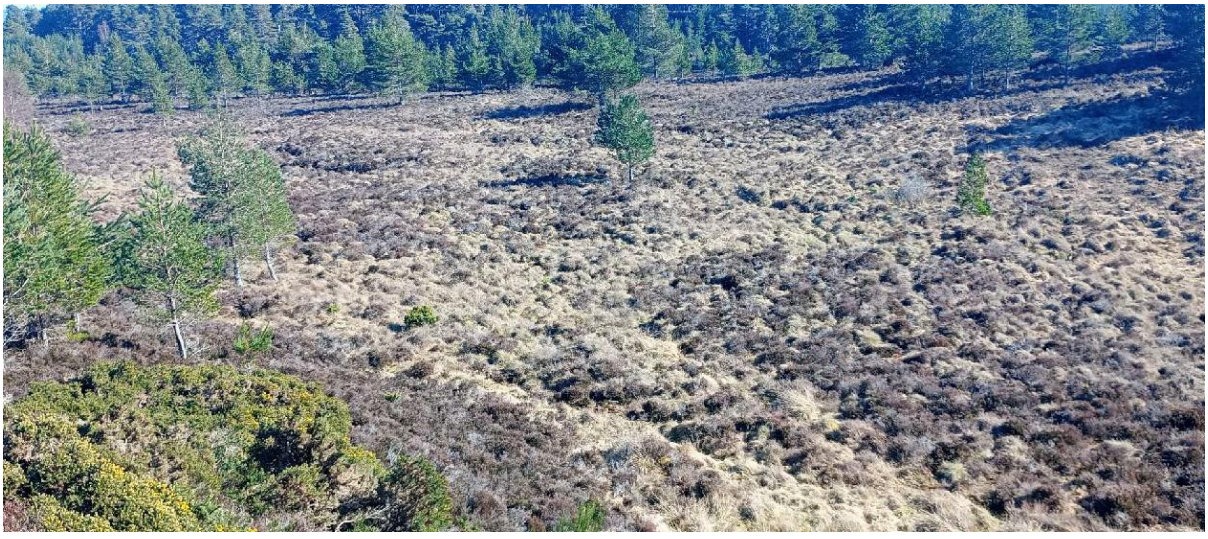

Plate 2- Scattered Scots pine trees, averaging around 4 m in height, are found both individually and in small clusters throughout the OC.

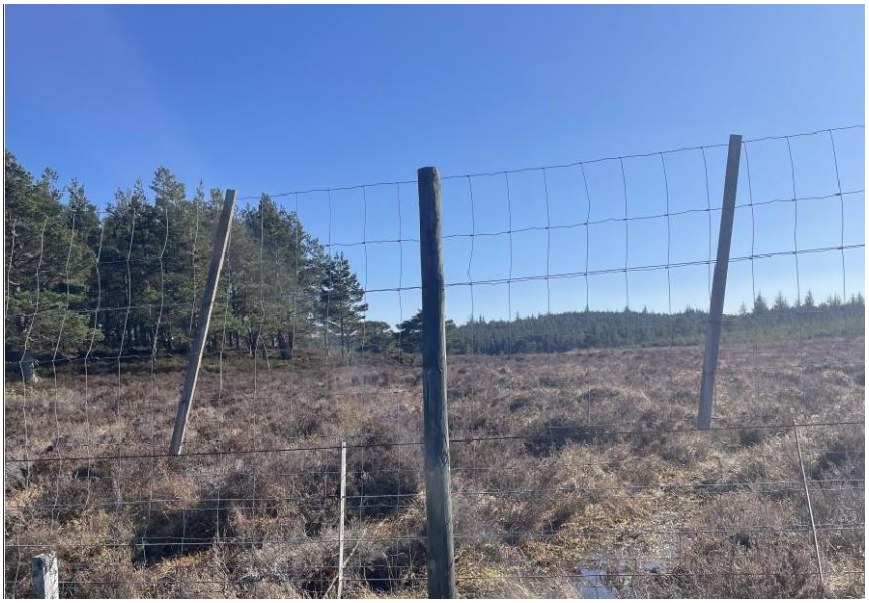

Plate 3- The proposed location of the OC lies within an open gap between mature tree stands to the west and a young Scots pine plantation to the east, providing a natural corridor through the woodland. This section is situated at grid reference NH 45352 43251**.**

5.7 Within Ardochy, there is a special arrangement where the Proposed Development is set to cross an existing overhead line (OHL). This area overlaps with the previous corridor route associated with the existing OHL and contains regenerated Scots pine trees reaching heights of up to 4 m. Refer to **Plate 4**.

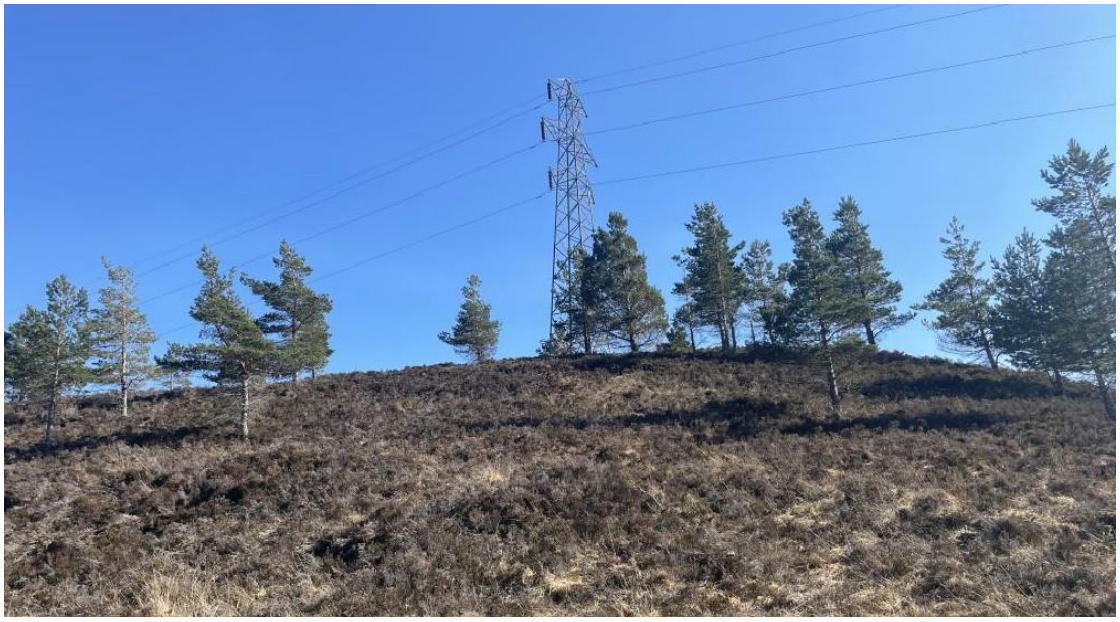

Plate 4- The special arrangement location along the existing overhead line within Ardochy is characterised by scattered young Scots pine trees reaching up to 4 m in height in the surrounding area. This site is located at grid reference NH 44975 43398.

5.8 The site presents soils of the composition humus-iron podzols with peaty gleyed podzols.[4]

6. Windblow Risk Impact

6.1 An assessment was undertaken of the risk of windblow to areas of woodland adjacent to the OC, which would be exposed due to the tree clearance required for the OC. This assessment was based on the professional judgement of the forestry surveyor with consideration being given to the soil and moisture regime, the topography, tree species, top height, exposure, altitude and aspect in relation to the prevailing wind direction and any previous management regimes. This assessment was also based on site visits and observations, and available data of the site. Reference was also made to Forest GALES 2.5 Forest Research decision support system where appropriate.

6.2 Given the nature of some of the open canopy and the mixed-age immature structure of Scots pine and the local characteristics of soils, topography and aspect, it is anticipated that the introduction of the OC will not result in future windblow to the adjoining woods.

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[5] windblow hazard class score of 12, which is classified as moderately exposed. The site has mineral soils with shallow rooting which are mostly cool and moist.

7. Woodland Management Impact

7.1 The OHL will create additional challenges for the future management of the forest as it dissects existing management coupes and introduces an electrical hazard. The risks associated with the electrical hazard will be reduced by regular maintenance of the OC, so maintaining the compliance of the OC and reducing any need for future tree clearance operations within the "Red Zone".[6]

7.2 While the OC will result in the sterilisation of some woodland areas, this is not expected to impact forest restructuring. This is due to the fact that native woodlands are generally not subject to commercial management. Opportunities for mitigation and woodland enhancement are outlined in **Section 8.**

7.3 The OHL will cross the woodland road network at either approximately 45 or 90 degrees and will be built to the regulatory safe height clearances above forest access

[4] Scottish Government's Scotland's soils website https://soils.environment.gov.scot
[5] Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, "Forest Gales software programme" and Forestry Commission Leaflet 85 "Windthrow Hazard Classification"
[6] As specified by the 'Red Zone' set out in paragraph 41 of the Forest Industry Safety Accord (FISA) Safety Guide 804. Electricity at Work: Forestry (2020) FISA 804 (ukfisa.com)

tracks, which will reduce the hazard in respect of future timber haulage. It may still, however, impact on machine operations within the proximity of the OHL, such as stacking and loading. Mitigation of which could be incorporated into the access design, following discussions with the landowner.

7.4 The OHL may be restrictive to future in-forest machinery access. The requirement for dedicated forestry machine OHL crossing points will be discussed with the landowner and if required, will be identified once the OHL has been constructed, thus providing a safe OHL crossing point(s) for future working within the woodland.

7.5 The impact of the Proposed Development on the overall viability and continuity of woodland management has been considered. Given the natural composition and structure of these areas, it is not expected to compromise forest operations or ongoing management. Consequently, the Proposed Development is not considered to materially affect the viability of the current or future management regime.

7.6 The impacts arising from the Proposed Development are not anticipated to affect the wider woodland management regime, nor are they expected to necessitate any alteration to the current or planned species composition.

8. Mitigation Opportunities

8.1 As part of early-stage mitigation at Ardochy Wood, the alignment of the Proposed Development was adjusted to avoid intersecting Ancient Woodland Sites and ecologically sensitive areas of high-quality native pinewood. This realignment has substantially reduced the overall impact on native woodland, minimised woodland loss, and ensured complete avoidance of any impact on Ancient Woodland within this ownership boundary.

8.2 The Applicant will be using a process of 'managed resilience' which will seek to retain naturally regenerated broadleaved trees and shrubs as close as possible to the line to keep as much tree cover as possible. Smaller and lower growing tree species and shrubs can be retained closer to the OHL. OHL vegetation maintenance would take place on a 4-yearly cycle as required.

8.3 Impacts on woodland restock opportunities, resulting from the OC sterilisation, could be addressed through the amendment of the Felling Licence Application or the Long-Term Forest Plan (LTFP), adhered to the regulations of the Forestry and Land Management (Scotland) Act 2018, and in line with the UK Forestry Standard guidance to utilise wayleave corridors as designed Open Ground, repurposing currently unplanted areas to maintain the commercial productivity of the woodland.

8.4 Before the construction phase, these areas, along with access tracks, will be assessed for selective felling and also crown reduction to determine if greater tree retention is feasible. The final extent of tree retention will depend on the

requirements of the Proposed Development, particularly ensuring the safety of OHL wiring operations during construction.

8.5 The OC woodland removal area is required for the construction and operation of the new OHL infrastructure. Opportunities will be assessed for encouraging woodland regeneration within the OC, the identification of suitable areas cannot be guaranteed due to the requirement of maintaining the safe energisation of the OHL. Reference to **Tables 9.2 and 9.3** below, will fully mitigate the loss of forest resource within the OC through compensatory planting of the equivalent area (ha) of woodland removed.

8.6 Impact of stability within the remaining crop has been assessed and reported on above.

9. Woodland Removal Impact

Table 9.1: Woodland Removal for Infrastructure

Item	Type of Infrastructure	Woodland type	Area (ha)
Operational corridor	Permanent	Conifer woodland	1.12
Access track corridor	Permanent	Conifer woodland	1.41
		Broadleaved woodland	0.15
	Temporary	Broadleaved woodland	0.07
Special Arrangements	Permanent	Conifer woodland	0.99

Table 9.2: Compensatory planting

Compensatory Planting Area		3.74

Table 9.3: Woodland Removal Impact of Infrastructure

Item	Woodland type	Area (ha)
Total Removal of Woodland Area	Conifer woodland	3.52
	Broadleaved woodland	0.22
Total Compensatory Planting Area off-site	Conifer woodland	3.52
	Broadleaved woodland	0.15
Total Restocking/ Replanting Area on-site	Broadleaved woodland	0.07
Total Net Loss of Woodland Area		**0**

10. Compensatory Planting

10.1 Compensatory planting to achieve the area quantity (ha) of woodland removal as a result of the Proposed Development will be in accordance with the Scottish Government's Control of Woodland Removal Policy of no net loss of woodland. A compensatory planting strategy is set out in **Volume 5, Appendix 13.3: Compensatory Planting Strategy.**

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TRANSMISSION

A

B

C

D

E

Scale 1:350,000

Scale @ A3 1:8,000

N

0 0.25 0.5 km

245000 245500 246000 246500

844500 844000 843500 843000 842500

S222 S223 S224 S225 S226 S227 S228

Coille na Cleithe

Ford

Track

Breakachy Farm

Breakachy

Sheep Wash

Drain

Allt na h-Athain

Allt na Craoibeig

Darach Brae

Loch an Ùird

Lòn Duchalaidh

Masts

Tòrr a' Bhealaidh

Moalnaceap Cottage

Burn of Crask

Crask of Aigas

Path

Collects

Legend

- Landownership boundary/parcel
- Central line Operational Corridor
- Proposed 400kV OHL Towers
- 20m Access Corridor
- Access Tracks- Existing Upgrade
- Access Tracks- New Stone Perm
- Access Tracks- New Stone Temp
- NWSS- Native woodland
- Conifer woodland- Operational Corridor 90m
- Special arrangements buffer90m

Woodland report
Project No- LT000132
Spittal- Loch Buidhe - Beauly 400kV Connection
Figure 1. Woodland Impacted by the Proposed Development
Section E- Ardochy

Ref No: 28-06-2025