Scottish & Southern Electricity Networks

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5, Appendix 13.1 – U:

Woodland Reports

Dounie Wood

July 2025

Scottish & Southern Electricity Networks

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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 Within Dounie Estate ownership, the woodlands at Wester Dounie, are privately owned. They are situated in Strathcarron Glen along the River Carron, approximately 4.5 km west of Ardgay, with the A836 being the nearest major road.

3.2 The woodlands comprise two distinct types, a commercial conifer plantation situated south of the c-class public road and the River Carron, and a semi-natural broadleaved woodland located north of the road and the river. The conifer woodland primarily consists of conifer species and spans elevations of approximately 50 m above sea level. The central grid reference for the property is NH 55632 90719, positioned between both woodland types.

3.3 Access to the Dounie woodlands is via the local public road south of the River Carron. The northern woodland, across the river, is accessed via the public road north of the River Carron, both routes originating from Ardgay. The Proposed Development intersects the River Carron, with the Operational Corridor from north to south. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.

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 Dounie woodlands extend from over 150 m north of Tower S39 to about 170 m south of Tower S46.

4.1.2 The Study Area for this assessment is based around an operational corridor of 90m. 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].

4.2 Access Track Route Design

4.2.1 The c-class roads south and north to the River Carron provide access to both woodlands at either side of the river. No new roads are to be created within woodlands. New sections of both temporary and permanent roads will be constructed within and outside the OC in the open ground, and will not be affected by woodlands. These roads will serve as the primary

[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).

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.

4.2.2 New access tracks, also detailed in **Figure 1: Woodland Impacted by the Proposed Development**, will be built to service Towers S39 to S46.

4.2.3 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.

4.2.4 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)

[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.

5.3 The woodlands within this ownership are situated on gently sloping low ground adjacent to the River Carron, with a predominantly north-facing aspect. Within this landscape, the Proposed Development primarily crosses areas of conifer plantation as well as a semi-natural broadleaved woodland located within the riparian zone of the River Carron.

5.4 These woodlands consist of either coniferous plantations classified as Native Woodlands, as identified in the NWSS, or broadleaved semi-natural woodlands, some of which are designated as Ancient Woodland of Semi-Natural Origin (AWSNO) (2a) in the AWI. Refer to **Table 5.1.**

Table 5.1: Woodland Designations

Item	Type of Impact	Woodland Designations	Area (ha)
Operational corridor	Permanent	AWI- AWSNO 2a	0.83
		NWSS- Native woodland	1.36
Management Felling*	Temporary	NWSS- Native woodland	0.95

*Management Felling reference and details described in **Section 6**- Windblow Risk Impact.

5.5 The AWSNO 2a area is situated on the southern bank of the River Carron within the OC. While not all broadleaved woodland south of the river within the OC falls under the AWSNO classification, they all exhibit similar characteristics. Therefore, for the purposes of this report, this classification should be considered for the entire broadleaved woodland area. Refer to **Plate 1**.

5.6 The AWSNO woodland primarily consists of birch trees of mixed ages, ranging from semi-mature to pole-stage, reaching up to 12 m in height. Rowan and willow are also present in open gaps, though the understorey remains sparse. Some mature-looking birch trees display broken limbs and lichen growth. Trees closest to the river's edge are subject to seasonal flooding during winter months. Refer to **Plate 2**.

Plate 1- AWSNO 2a. Broadleaved woodland primarily composed of pole-stage birch trees, with scattered deadwood and no developed understorey. Grid reference: NH 55604 90820.

Plate 2- AWSNO 2a: Broadleaved woodland on the edge of the River Carron, where natural regeneration of birch and rowan is observed in open gaps among semi-mature birch trees. Grid reference: NH 55557 90826.

5.7 The Native Woodlands within the OC are all situated on the southern side of the public road and are classified as native pinewood. This woodland, originating from commercial plantation, is primarily composed of financial semi-mature Scots pine, averaging 18 m in height, with some spruce present in the mix. Some light coming into the understorey suggest past thinning operations throughout the stand; however, there is no understorey development within the conifer stand. Refer to **Plate 3**.

Plate 3- Native Woodland- this conifer plantation is primarily composed of Scots pine averaging 18 m in height, with Sitka spruce of similar height also reaching commercial maturity. The photograph is taken from the broadleaved woodland, looking up the hill across the road south of the River Carron. Grid reference: NH 55526 90625.

5.8 The remaining broadleaved woodland located north of the River Carron is not associated with any woodland designations or classifications. This area consists of semi-mature birch trees, with some scattered birch and willow regeneration near the river. The trees are spaced along the riverbank, creating a natural buffer zone. Refer to **Plate 4**.

Plate 4- Photograph taken from the north side of the River Carron where no classified woodland is encountered, capturing the AWSNO area. The image features a group of regenerated young birch trees alongside semi-mature birch trees, which average 6 m in height. Grid reference: NH 55542 90932.

5.9 The site soils are predominantly Humus-iron podzols.[4]

[4] Scottish Government's Scotland's soils website https://soils.environment.gov.scot

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. Felling outwith the OC to a windfirm boundary is termed Management Felling and is presented within **Figure 1: Woodland Impacted by the Proposed Development.**

6.2 Given that the commercial plantation is composed of semi-mature conifer, averaging a height of 18 m and the local characteristics of topography and exposition, it is anticipated that the introduction of the OC will result in future windblow to the adjoining woods. Refer to **Table 9.1**.

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[5] windblow hazard class score of 15, classified as moderately exposed. The site presents mineral soils with shallow rooting being mostly cool and moist.

6.4 Management felling is proposed to the areas adjacent to the OC to minimise the future risk of windblow. However, certain areas within the woodland contain more open crops, which are likely to remain wind-stable, such as the broadleaved woodland coupes. Refer to **Table 9.4.**

6.5 While management felling is proposed by the Applicant as part of sound forestry practice, the decision to implement such operations ultimately rests with the forest owner, who must align any felling activities with their broader forest management plans and objectives. Felling permission for these areas must be obtained by the landowner through an application to Scottish Forestry. As part of this regulatory process, Scottish Forestry will consider the appropriateness of the proposed felling and will attach conditions requiring the restocking of felled areas to ensure continued sustainable forest management.

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

[5] Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, "Forest Gales software programme" and Forestry Commission Leaflet 85 "Windthrow Hazard Classification"

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 The sterilisation of the OC, however, will have an impact on forest restructuring, potentially impacting the landowner's ability to utilise the forest's commercial viability in accordance with the UK Forestry Standard. Mitigation opportunities are discussed in the following **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 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. The affected conifer area forms part of a larger commercial woodland. Although the proposed OC intersects the woodland centrally, it is not expected to compromise the implementation of forest operations or ongoing management, particularly as existing access is available on both sides of the OC. For the broadleaved woodland blocks, management requirements are relatively low and are not expected to intensify in the foreseeable future. Furthermore, no significant fragmentation or isolation of woodland compartments is anticipated. The Proposed Development is therefore not expected to materially affect the viability of current or future woodland management activities.

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 Mitigation to reduce the extent of tree felling within the OC will be considered and incorporated in areas of broadleaved woodlands as part of the Proposed Development. Refer to **Section 13.5.3** Good practice and **Section 13.7.1** Mitigation within **Volume 2, Chapter 13: Forestry**. This includes effects to the riparian broadleaved trees within the AWI of trees on the bank of the River

[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)

Beauly. 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.

8.2 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.

8.3 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.

8.1 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.

8.2 Impacts of stability within the remaining crop have been assessed and considered as noted in **Section 6**. Woodland loss and management felling have been minimised through retention of crops identified as likely to be windfirm.

8.3 Impacts of stability within the remaining crop have been assessed and considered as noted above.

9. Woodland Removal Impact

Table 9.1: Woodland Removal for Infrastructure			
Item	**Type of Infrastructure**	**Woodland type**	**Area (ha)**
Operational corridor	Permanent	Broadleaved woodland	1.26
		Conifer woodland	1.36

Table 9.2: Compensatory planting		
Compensatory Planting Area		2.62

Table 9.3: Woodland Removal Impact of Infrastructure		
Item	**Woodland type**	**Area (ha)**
Total Loss of Woodland Area	Broadleaved woodland	1.26
	Conifer woodland	1.36
Total Compensatory Planting Area off-site	Broadleaved woodland	1.26
	Conifer woodland	1.36
Total Restocking/ Replanting Area on-site		0
Total Net Loss of Woodland Area		**0**

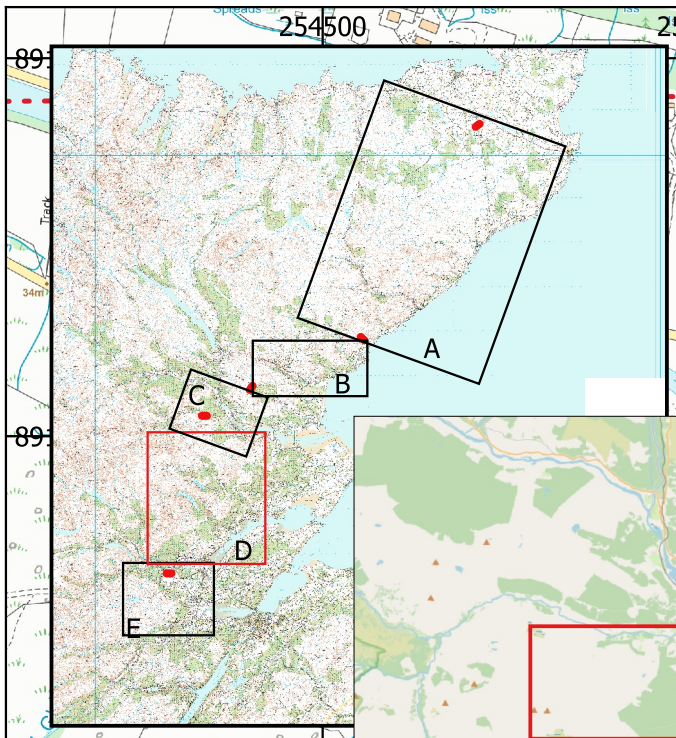
Table 9.4: Woodland Removal for Management Felling			
Item	**Type of impact**	**Woodland type**	**Area (ha)**
Management Felling	Temporary	Conifer woodland	0.95
Replanting / Restocking	Adhere to Forestry and Land Management (Scotland) Act 2018.	Conifer woodland	0.95
Net Loss of Woodland Area			0
Note: Felling approval is via Scottish Forestry Felling Licence Application process or Long-Term Forest Plan application or amendments process.			

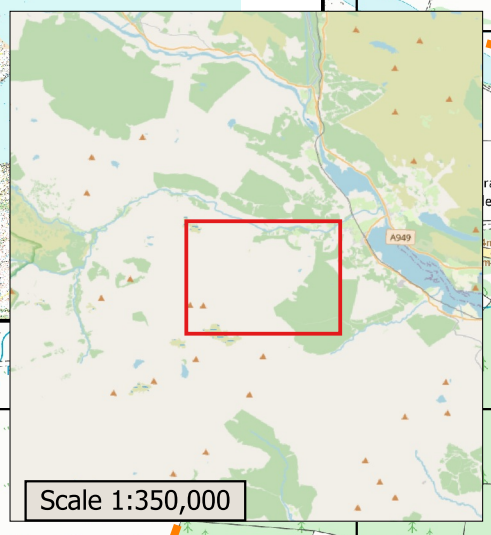
10. Compensatory Planting

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.**

Scottish & Southern Electricity Networks

TRANSMISSION





S39 S40 S41 S42 S43 S44 S45 S46

Scale @ A3 1:10,000

N

0 0.25 0.5 km

Legend

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

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

Ref No: 28-06-2025