Scottish & Southern Electricity Networks

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5, Appendix 13.1 – D:

Woodland Reports

Smerral Parcel 104

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 Parcel 104 is composed of a mix of conifer and broadleaved woodland, which is affected by the Proposed Development. It is situated approximately 5.5 km north of Dunbeath by Smerral, located 4 km west of the A9 public road.

3.2 The affected woodlands within the estate consist of native woodland composed of coniferous and broadleaved woodland. The central point grid reference is ND 16071 34080.

3.3 The woodland area is accessible from the minor local road Toremore to Houstry.

3.4 There is no formal access to the woodland, but the proximity of this property can be reached by the local road to Houstry. 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 Overhead Line (OHL) sections relevant to this property, Parcel 104, extend from 40 metres (m) north of Tower N73 to 100 m south of Tower N75.

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].

4.2 Access Track Route Design

4.2.1 There are no existing access tracks within the property that provide access to the edge of the woodland or the Proposed Development features. New sections of temporary access tracks will be constructed within the OC. These access tracks will serve as the primary vehicle access route for the

[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).

Proposed Development, and will undergo maintenance and upgrades as part of the construction scope.

4.2.2 New access tracks will be built to service Towers N73 to N75. Refer to **Figure 1: Woodland Impacted by the Proposed Development.**

4.2.3 The construction of these new access tracks will not increase the impact of woodland removal as they fall within the OC. Refer to Table **9.1**.

4.2.4 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.

4.2.5 These access tracks will serve as the main arterial construction route. Tree felling and timber extraction will be able to utilise existing tracks, prior to any construction activity.

4.2.6 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]:

[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.

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

5.3 The OC passes through coniferous plantations, which are primarily commercial. The dominant species within these plantations are spruce and Lodgepole pine.

5.4 There are no woodland classifications or designations within this property.

5.5 The woodland affected by the Proposed Development is located on relatively flat terrain at approximately 180 m above sea level. A gentle slope in the southern part of the woodland, within the OC, features drier soils where tree growth is noticeably better.

5.6 The site features small, dry ridges interspersed within predominantly wet, marshy areas. The soils across the area are mainly peaty gleyed podzols[4], which contribute to the overall poor drainage characteristics of the site.

5.7 This woodland was established under the RDC Woodland Creation Scheme between 2007 and 2013, which aimed to create a native woodland. The plantation consists of a mixture of young conifer and broadleaved species, primarily birch for the broadleaved component and Scots pine for the conifer element. Refer to **Plate 1.**

5.8 A ring fence was installed prior to planting to protect the trees from deer browsing; however, its current condition no longer serves its intended purpose.

5.9 The trees are at a young, pole-immature stage and exhibit limited growth, with many showing signs of poor establishment. A high percentage of planting failure is evident, and the surviving trees show poor health and slow or stunted growth. The ratio of conifer to broadleaved species appears to be consistent at equal presence throughout the woodlands affected by the Proposed Development.

5.10 The average height of Scots pine is approximately 1.2 m, while birch averages around 0.8 m. On the better-drained and drier soils within the plantation, both species can reach heights of up to 2 m, although these examples are sparse across the site. Refer to **Plate 2**.

5.11 Scattered broadleaved patches of surviving broadleaved trees are present across the area affected by the Proposed Development's OC, in some instances occurring at lower densities. In addition, several clusters of dense gorse were observed throughout the plantation. Refer to **Plates 3 and 4.**

Plate 1- Woodland at Parcel 104 consists of a young, immature mixed plantation of conifer and broadleaved species, predominantly birch. The photograph shows a small ridge in the background, where more favourable soils support better tree growth. In contrast, the middle of the image shows a flat, mossy, and peaty area with waterlogged ground, where no trees were planted due to poor site conditions. Grid reference: ND16154 34171.

Plate 2- Young, immature pine species within the plantation are displaying signs of poor health and sparse distribution. The ground cover is dominated by heather, particularly on the ridges. Trees of pine trees average around 1 m in height. Grid reference: ND 16193 34237.

Plate 3- Broadleaved cluster primarily composed of birch within the OC. The trees have an average height of 0.7 m and are exhibiting signs of struggling growth.
Grid reference: ND 16315 34386.

Plate 4- Patches of gorse are present on the best and driest soils in the northern areas of the woodland within the Operational Corridor (OC). The trees in this area are primarily birch, with very low densities averaging 400 trees per hectare. The species mix mainly includes birch, with scattered pine.
Grid reference: ND 16439 34587.

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 the woodlands, which consist of young trees in a poorly established plantation, along with the local soil characteristics, topography, and aspect, it is expected that the introduction of the OC will not lead to future windblow affecting the adjacent trees.

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[4] windblow hazard class score of 17, classified as highly exposed. The site presents mineral soils with shallow rooting.

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".[5]

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 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

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

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 There is no significant woodland management impacted by the Proposed Development given the woodland's current characteristics and ongoing management.

7.6 The impact of the Proposed Development on the overall viability and continuity of woodland management has been considered. The woodland consists of a native planting scheme that has experienced high rates of failure. As it remains in the challenging stages of establishment, some management input may be needed in the coming years to support its successful development. The creation of new access tracks through the site will enhance accessibility and facilitate these management activities. Overall, the level of intervention required is expected to remain low, and the presence of the OHL is not anticipated to have any significant impact on the woodland's management.

8. Mitigation Opportunities

8.1 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.

8.4 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.

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

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	2.85
		Broadleaved woodland	2.85

Table 9.2: Compensatory planting

Compensatory Planting Area		5.70

Table 9.3: Woodland Removal Impact of Infrastructure

Item	Woodland type	
Total Loss of Woodland Area	Conifer woodland	2.85
	Broadleaved woodland	2.85
Total Compensatory Planting Area off-site	Conifer woodland	2.85
	Broadleaved woodland	2.85
Total Restocking/ Replanting Area on-site		0
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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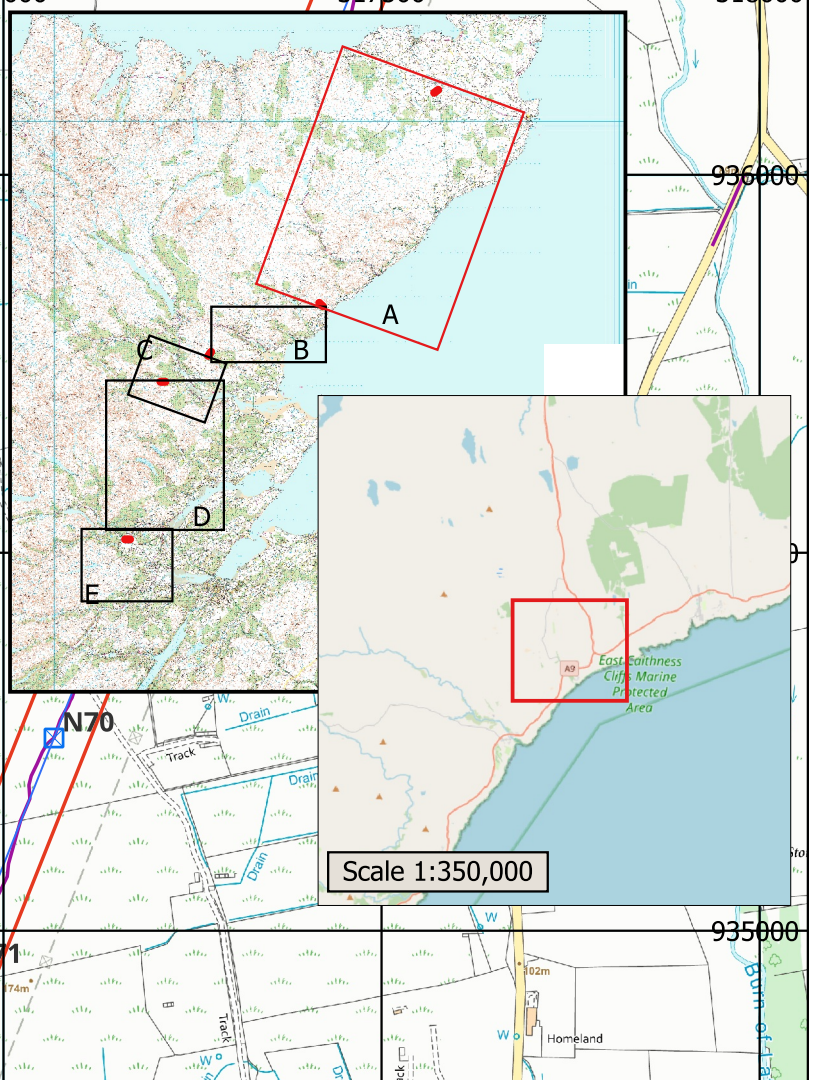
TRANSMISSION



N70 N71 N72 N73 N74 N75 N76 N77 N78

Scale @ A3 1:10,000

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0 0.25 0.5 km

Legend

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

Woodland report
Project No- LT000132
Spittal- Loch Buidhe - Beauly 400kV Connection
Figure 1. Woodland Impacted by the Proposed Development
Section A- Smerral Parcel 104

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