Scottish & Southern Electricity Networks

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5, Appendix 13.1 – S:

Woodland Reports

Strathcarron Wood

July 2025

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 Strathcarron Wood is a privately owned woodland located approximately 5 km northwest of Ardgay village. It is bordered by Inveroykel woodland and lies within a broader landscape stretching between the Kyle of Sutherland estuary to the northeast and the River Carron to the southwest.

3.2 The nearest public road is the A831, with the closest access via a c-class road north of the River Carron and a private croft road which gives access to the middle of Strathcarron Wood.

3.3 The woodland primarily consists of conifer woodlands and spans elevations ranging from 100 m to over 170 m above sea level The central grid reference for the property is NH 55635 92626.

3.4 The site features a forest track that crosses the OC, extending from the minor public road north of the River Carron into Strathcarron Wood. This track provides access to the area around Tower S34. Refer to **Figure 1: Woodland Impacted by the Proposed Development** for further details.

3.5 The main watercourse, Culeave Burn, crosses the woodlands and the OC on the southern side of the Proposed Development within Strathcarron.

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 Strathcarron Wood are 40 m north of Tower S33 to Tower S36 right on the property boundary.

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].

[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 An existing forest track provides access to various areas of the woodlands and is located near the Proposed Development features. No new access tracks are planned within Strathcarron for this Proposed Development outside the OC. The existing track will serve as the primary vehicle access route for the Proposed Development and will undergo maintenance and upgrades as part of the construction scope, as illustrated in **Figure 1: Woodland Impacted by the Proposed Development**.

4.2.2 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.

4.2.3 That forest road will serve as the main arterial construction route. Tree felling and timber extraction will be able to utilise the existing track, prior to any construction activity.

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]:

[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 woodlands within this ownership are situated on gentle slopes, transitioning into undulating lowlands, mostly southeast-facing aspect. Within this landscape, the Proposed Development primarily traverses commercial conifer plantations composed of key productive species. Small clusters of broadleaved trees are occasionally present along the plantation edges, particularly in wetter areas.

5.4 The woodlands within Strathcarron do not present any classification or designation.

5.5 All wooded areas affected by the Proposed Development in this section consist of commercial conifer plantations of similar age, having been planted simultaneously in 1988.

5.6 These woodland blocks are primarily composed of mix semi-mature Sitka spruce and lodgepole pine, with a smaller proportion of larch reaching commercial maturity. Refer to **Plate 1**. Most woodland coupes feature an intimate mix of these species, with spruce predominating alongside lodgepole pine.

Plate 1-Photograph showing a commercial coupe within Strathcarron, composed of semi-mature spruce and lodgepole pine of similar age, trees reach an average height of 19 m. Grid reference: NH 55610 92405

5.7 The commercial coupes have a very closed canopy, resulting in a dark understory with no development. These conifer woodlands have not undergone any previous thinning operations. Refer to **Plate 2**.

Plate 2- No light penetrates beneath the semi-mature conifer plantation at Strathcarron. Grid reference: NH 55673 92874.

5.8 Within the OC, the woodlands exhibit some variation, with patches of poor, stunted growth and smaller trees primarily found in the wettest and least fertile areas. These areas are mostly located on the southern and northern edges of the property intersected by the Proposed Development OC. Refer to **Plates 3 and 4**.

Plate 3- A small patch of stunted lodgepole pine, spruce, and larch, with trees averaging 12m in height. Grid reference: NH 55546 92208.

Plate 4- Smaller trees and lower timber volume in the coupes north of the property within the OC, with an average height of 16m. Grid reference: NH 55696 93112.

5.9 On the edges of the commercial conifer plantation coupes, small clusters of broadleaved trees are present. These groups are dominated by birch, with

occasional alder and willow. The average height of these trees is 12 m. Refer to **Plate 5**.

Plate 5- Small cluster of broadleaved trees mainly composed of birch species averaging 12 m in height located on the edge of the coniferous woodland blocks. Grid reference: NH 55603 92287.

5.10 Within the commercial conifer plantation coupes at Strathcarron, some patches of windblow have been observed, particularly in the blocks to the east of the property, with only a minor impact on those affected by the OC.

5.11 The site soils are predominantly peaty gleyed podzols.[4]

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

6. Windthrow 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 the nature of some of the woodlands- those of semi-mature and mature conifer woodlands averaging a height of 19 m with unthinned stands and the local characteristic of soils, topography and aspect, 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] windthrow hazard class score of 16, classified as highly exposed. The site presents mineral soils with shallow rooting that are mostly cool and moist.

6.4 Management felling is proposed for the areas adjacent to the OC and the access track corridors to minimise the future risk of windblow. These areas share similar characteristics with the woodlands affected by the OC. The coupes have been assessed up to the nearest green-edge and are therefore considered stable under current conditions. 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.

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

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 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 western area of the woodland, which comprises approximately two-thirds of the property, will remain unaffected by the Proposed Development. However, the development may influence woodland management and access to the eastern section, as the existing access route located centrally within Strathcarron Wood, crosses woodland now intersected by the OC, potentially limiting access to areas west of the corridor. Connectivity between areas on either side of the OC will remain the same, as most of the proposed new tracks lie within the OC itself. The affected woodland is currently approaching its planned harvesting phase, and the Proposed Development is not expected to alter much the timing of these operations. Overall, the introduction of the OHL at Strathcarron is anticipated to have only a minimal impact on woodland management.

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.

[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)

8. Mitigation Opportunities

8.1 Mitigation to reduce the extent of tree felling within the OC will be considered and incorporated whenever possible. 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 as noted in **Section 6**. Woodland loss and management felling have been minimised by retaining crops identified as likely to be windfirm.

8.6 The 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	10.22
		Broadleaved	0.11
Holding Out Positions	Temporary	Conifer woodland	0.64

Table 9.2: Compensatory planting		
Compensatory Planting Area	Conifer woodland	10.97

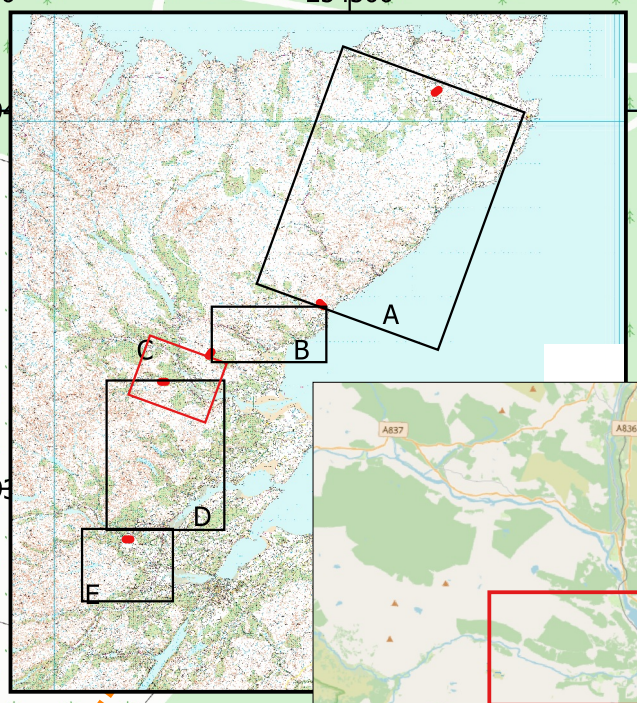
Table 9.3: Woodland Removal Impact of Infrastructure		
Item	**Woodland type**	**Area (ha)**
Total Loss of Woodland Area	Conifer woodland	10.86
	Broadleaved woodland	0.11
Total Compensatory Planting Area off-site	Conifer woodland	10.22
	Broadleaved woodland	0.11
Total Restocking/ Replanting Area on-site	Conifer woodland	0.64
Total Net Loss of Woodland Area		**0**

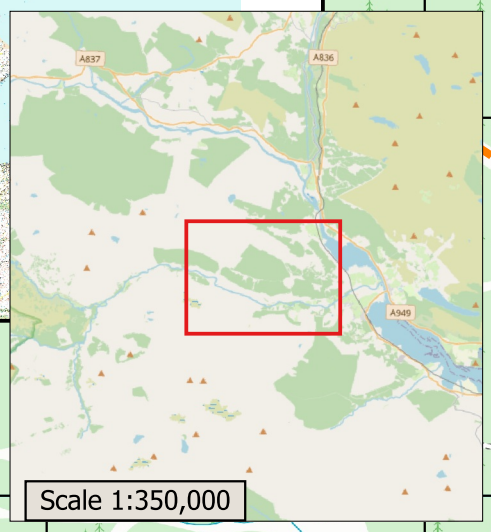
Table 9.4: Woodland Removal for Management Felling			
Item	**Type of Impact**	**Woodland type**	**Area (ha)**
Management Felling	Temporary	Conifer woodland	52.21
Replanting / Restocking	Adhere to the Forestry and Land Management (Scotland) Act 2018.	Conifer woodland	52.21
Net Loss of Woodland Area			0
Note: Felling approval is via the 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





Scale 1:350,000

S31
S32
S33
S34
S35
S36
S37
S38
S39

Track
Drain
Allt na Geardaich
Hilton Steading
Iss
Sks
Collects
Drain
Lòn na Sùnachun
Clais Mhòr
Langwell
Culeave Burn
Aonach Mòr
Creagan Mòr
Aonach Beag
Hilton Balchrick
Loanamain
West Strathcarron Wood
Collects
Spreads
Balnabruaich
Ford
Croftwards
D
Leac Dubh Mor
Sheep Wash
Sonnycroft
Ford
Cawdearg
Torr Beithe
Manderley
Allt an Tartair
Easter Gruinards
Culeave Cottage
CADH AN TARTAIR
Poll na Geadaiasg
Aodann Bheag
Aodann Mhòr
Op na Caorach
Gruinards
Coille Fuaran na Suileig
Allt an Donuil
Coille Bheithe
Cave
Fords
Waterfall
Wester Dounie
Dounie
Ballanfraoich
Sluice
Scale @ A3 1:10,000
N
0 0.25 0.5 km

254000 254500 255000 255500 256000 256500
894000 893500 893000 892500 892000 891500 891000

Legend

- Landownership boundary/parcel
- Operational Corridor
- Central line Operational Corridor
- Proposed 400kV OHL Towers
- 20m Access Corridor
- HLP/EPZs buffer
- Management Felling
- Access Tracks- Existing Upgrade
- Access Tracks- New Stone Perm
- Access Tracks- New Stone Temp
- Conifer woodland- Operational Corridor 90m
- Broadleaved woodland- Operational Corridor 90m

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

Ref No: 28-06-2025