Scottish & Southern Electricity Networks

# Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

# Environmental Impact Assessment

## Volume 5, Appendix 13.1 – AI: Woodland Reports

## Main of Aigas

**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 Mains of Aigas is a privately owned woodland located approximately 8 km southwest of the village of Beauly. The nearest public road is the A831, with access via a minor road through Crask of Aigas and Ardochy Farm. The site itself lacks formal infrastructure, aside from a few off-road vehicle tracks. Refer to **Figure 1: Woodland Impacted by the Proposed Development.**

3.2 The property is located at **NH** 46252 43239 west of the A831 public road and northwest of Crask of Aigas.

# 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 Main of Aigas extend from 125 m northwest of Tower S225 to approximately 115 m east of Tower S228.

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 There is no existing adequate infrastructure that leads to the woodlands within Mains of Aigas in proximity to the Proposed Development features; however, new sections of permanent access tracks will be constructed within 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 Towers S225 to S228.

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 plantations. 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, 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 relatively flat terrain at an elevation of approximately 200 m above sea level, surrounded by hills and undulating lowlands with varying slopes. The Proposed Development primarily passes through isolated tree groups in open ground, a young pine plantation, and the edge of an adjacent mature pinewood.

5.4 The woodlands within this property feature mix of semi-mature to mature coupes of conifer woodland composed of Scots pine and young conifer plantations of Scots pine. There is also encountered a cluster of pole-stage broadleaved trees to the east of the property affected by the OC.

5.5 All Areas with semi-mature and mature pine within Mains of Aigas are classified as Native Woodlands under the NWSS. Those are located to the western side around Tower S225. Refer to **Table 5.1**.

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[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.

| Table 5.1: Woodland Designations | | | |
|---|---|---|---|
| **Item** | **Type of Infrastructure** | **Woodland Designations** | **Area (ha)** |
| Operational corridor | Permanent | NWSS- Native woodland | 1.02 |

5.6 A total of 1.02 ha of Native pinewood classified under the NWSS is located within the OC. These are the only classifications within the Mains of Aigas property that the Proposed Development will pass through. Refer to **Plate 1**.

Plate 1- At grid reference NH 45473 43156, near the proposed location of Tower S226, the OC lies adjacent to a stand of semi-mature to mature Native pinewood classified under the NWSS. This woodland is composed of Scots pine trees reaching approximately 18 m in height, situated along the edge of the pinewood stand.

5.7 The native pinewood comprises a diverse mix of trees at varying stages of maturity, with the pine coupes generally exhibiting an open structure. The understorey is predominantly composed of juniper and rank heather, with minimal signs of natural regeneration. A few scattered throughout the woodland coupe are biologically mature Scots pines, some exhibiting signs of decay. These trees are prominent features in the local landscape and form part of a wider, mixed age-class pinewood extending within the classified Native woodland. While such mature trees are typical of pinewoods of this characteristic, they may be considered veteran trees due to their age, form, and ecological function. In line with British Standard BS 5837[4] in which case, they could be classified as Category B3 trees. valued for their ecological importance and contribution to the character of the native pinewood, with a remaining life expectancy of at least 20 years. Refer to **Plate 2**.

Plate 2- Overmature Scots pine trees have been identified within the Native pinewood near the vicinity of Tower S226, at grid reference NH 45562 43130. These trees reach approximately 19 m in height and exhibit early signs of decay, contributing to the ecological value and structural diversity of the woodland.

[4] BS 5837: 2012 Trees in relation to Design, Demolition and Construction

5.8 In addition to intersecting classified native woodland areas, the OC also traverses non-designated woodland, particularly between the proposed locations of Towers S225 and S226. This section primarily comprises open ground with naturally regenerated Scots pine saplings and scattered semi-mature clusters of Scots pine across the landscape. These semi-mature trees average approximately 17 m in height, and the ground in this area exhibits similar natural pinewood characteristics to those found in the nearby classified Native Woodland sites. Refer to **Plate 3**.

Plate 3- At grid reference NH 45610 43084, the OC passes through an area of open ground featuring scattered semi-mature Scots pine trees averaging 17 m in height, alongside naturally regenerating saplings of the same species dispersed throughout the landscape.

5.9 Between the proposed locations of Towers S226 and S227, the woodland primarily consists of a young Scots pine plantation established approximately 5–7 years ago, covering much of the open ground. Small numbers of young broadleaved trees are interspersed along the edges and corners of these plantations. In addition, scattered semi-mature individuals of Scots pine and birch, reaching heights of around 14 m, are present throughout the plantation area. Refer to **Plates 4 and 5.**

Plate 4- A young Scots pine plantation established at commercial density is present at grid reference NH 46135 43159. The trees in this area have an average height of approximately 2 m, planted at commercial densities.

Plate 5- A young plantation of Scots pine is located at grid reference NH 46008 43186, where individual semi-mature birch and Scots pine trees are scattered throughout the plantation. A photograph taken looking south along the line captures the young plantation.

5.10 On the eastern side of the property, the Proposed Development intersects areas of woodland composed of scattered individual pole-stage broadleaved trees, predominantly birch. These trees are dispersed individually across the landscape, typically found along the edges of open fields and adjacent to conifer woodland. They average approximately 7 m in height. Refer to **Plate 6**.

Plate 6- A patch of small pole immature-stage birch trees is situated within the landscape between grazing fields and conifer woodlands at grid reference NH 46497 43141.

5.11 On the eastern side of Main of Aigas, near the proposed location for Tower S228, there is a small cluster of Scots pine trees situated on a slope within the landscape. These trees are immature, averaging around 15 m in height. They exhibit poor quality, likely due to past windblow damage, with broken limbs and poorly developed crowns. Refer to **Plate 7**.

Plate 7- A small cluster of poor-quality Scots pine trees, averaging 15 m in height, is located near Tower S228 at grid reference NH 46768 43168.

5.12 The site presents soils of the composition humus-iron podzols with peaty gleyed podzols.[5]

# 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 woodlands- those of semi-mature and mature conifer woodlands of an average height of 18 m with rather semi-open canopy 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.

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

6.3 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[6] windblow hazard class score of 11, which is classified as sheltered. The site has mineral soils with shallow rooting, which are mostly cool and moist.

# 7. Woodland Management Impact

7.1 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".[7]

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 carefully considered. The affected woodland is part of a larger coniferous woodland, with only the woodland edges impacted by the development. Therefore, it is anticipated that the current and future management of the semi-mature and mature native woodland areas will remain largely unaffected. While the young woodlands established within the site may experience some minor impact due to the location of the OC, this is not expected to significantly compromise forest operations or ongoing management. Furthermore, the proposed new infrastructure will enhance operational accessibility, preventing any potential isolation of woodland units.

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

[7] 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)

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.**

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 | Broadleaved woodland | 0.41 |
| | | Conifer woodland | 4.68 |
| Access track corridor | Permanent | Conifer woodland | 0.46 |

| Table 9.2: Compensatory planting | | |
|---|---|---|
| Compensatory Planting Area | | 5.55 |

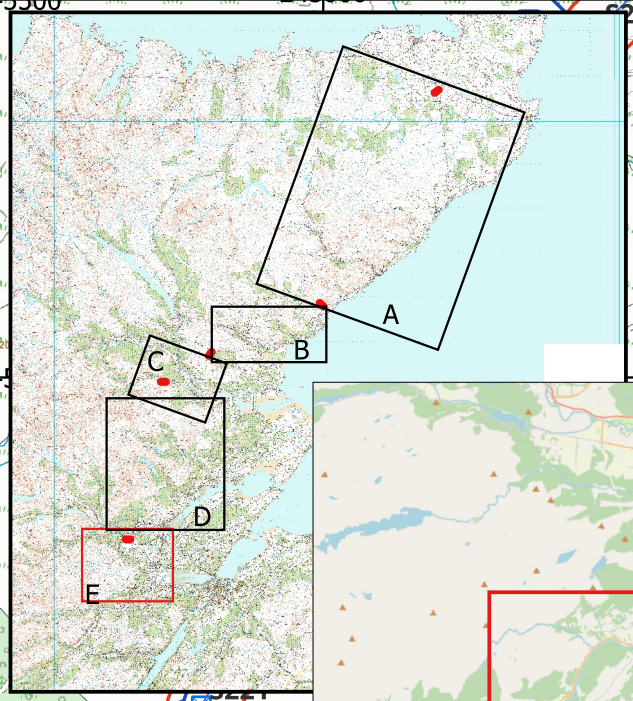
| Table 9.3: Woodland Removal Impact of Infrastructure | | |
|---|---|---|
| **Item** | **Woodland type** | **Area (ha)** |
| Total Loss of Woodland Area | Broadleaved woodland | 0.41 |
| | Conifer woodland | 5.14 |
| Total Compensatory Planting Area off-site | Broadleaved woodland | 0.41 |
| | Conifer woodland | 5.14 |
| Total Restocking/ Replanting Area on-site | | 0 |
| **Total Net Loss of Woodland Area** | | **0** |

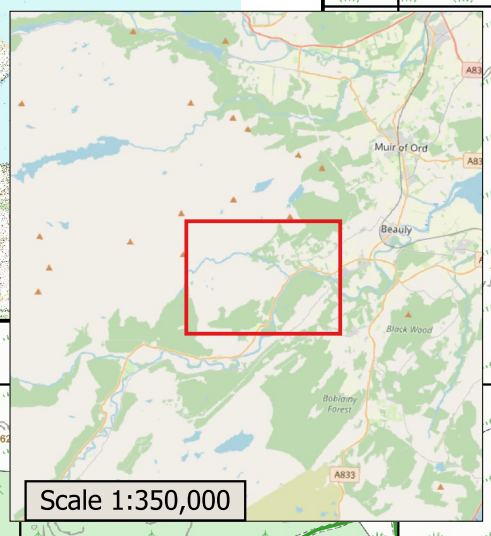
# 10. Compensatory Planting

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.**

Scottish & Southern Electricity Networks

TRANSMISSION

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Cairn

Hut Circles & Cairn System

Dun Mor Fort

Breakachy Burn

Allt Coille na Cleithe

Coille na Cleithe

Ford

Track

Reservoir (cov)

Drain

Brae Grudie

Spittalfield

Breakachy

Breakachy Farm

Sheep Wash

Creag Dhubh

Allt na h-Athain

Black Wood

Cluanie

Waterfall

Weir

Allt na Craisgeag

Darach Brae

Cnoc Chluaine

Collects

Loch an Ùird

Lòn Duchalaidh

An Drum

Creag a' Pheannsail

Masts on Tòrra Bhealaidh

Moalnaceap Cottage

Picnic Site

Allt nan Damh

Burn of Crask

Crask of Aigas

The Old Post Office

Loch nan Losgann

Creagan Soilleir

Pit (dis)

Tòrr nan Caorach

Eilean Aigas House

Scale @ A3 1:10,000

N

0 0.25 0.5 km

## 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
- 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 E- Main of Aigas

Ref No: 28-06-2025