Scottish & Southern Electricity Networks

TRANSMISSION

Creag Dhubh to Dalmally 275kV Connection

Environmental Impact Assessment

Volume 4 | Appendix 11.1a

Overhead Line (OHL) Woodland Report

Properties: Bovuy North and Achlian

April 2022

Scottish & Southern Electricity Networks
TRANSMISSION

Contents:

1 Introduction

1.1.1 This Technical Appendix (TA) presents information relevant to the Creag Dhubh to Dalmally 275kV Connection. It should be read in conjunction with the **Volume 2 – EIA Report** specifically **Chapter 11: Forestry**, for full details of the Proposed Development.

1.1.2 Scottish Hydro Electric Transmission plc (the Applicant) who, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands. Due to the growth in renewable electricity generation in the north and north-east of Scotland, upgrade of the transmission network is required in order to provide the necessary increase in transmission capacity.

1.1.3 The Applicant is proposing to apply for consent under section 37 of the Electricity Act 1989 to construct and operate a 13.3 kilometre (km) double circuit 275 kV overhead line (OHL), supported by lattice steel towers between a proposed substation at Creag Dhubh to the existing Scottish Power Energy Networks (SPEN) 275 kV OHL that runs from Dalmally to Inverarnan, near Succoth Glen, connecting via a Tie-In connection (the 'Proposed Development'). The location of the Proposed Development is shown in **Figure 1.1: Location Plan and Overview (EIAR Volume 3a).**

2 Purpose of this Woodland Report

2.1.1 As part of the Environmental Impact Assessment (EIA) process, it was identified that the overhead line construction and the access tracks required to construct the Proposed Development would cross a number of woodland areas within private or state owned landholdings. The landholding property boundaries are identified in **Figure 11.1 (EIAR Volume 3a)**.

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

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

3 Woodland Properties

3.1.1 The Bovuy North property is under private ownership and is located approximately 6 km south west of the village of Dalmally **Figure 11.1 (EIAR Volume 3a)**, with the north western property boundary adjacent to the A819 public road. The property covers predominantly open moorland with sporadic areas of naturally regenerated trees creating small woodland areas. There are no existing vehicle access tracks servicing the property. The centre point of the property is located at national grid reference 'NN 11728 23341'.

3.1.2 The Achlian property is under private ownership and is located approximately 5.5 km south west of the village of Dalmally, with the north western property boundary adjacent to the A819 public road. The property covers predominantly open moorland with some improved grassland and small areas of areas of naturally regenerated and plantation woodland. The main vehicle access point servicing the property dwellings is located off the A819 public road at national grid reference 'NN 11889 24365'.

4 Proposed Development Requirements

4.1 275kV Overhead Line

4.1.1 Bovuy North is affected by the Proposed Development OHL section from tower 16 to slightly east of tower 18, **Plate 4.1** (see **Figure 11.1** for full figure**).**

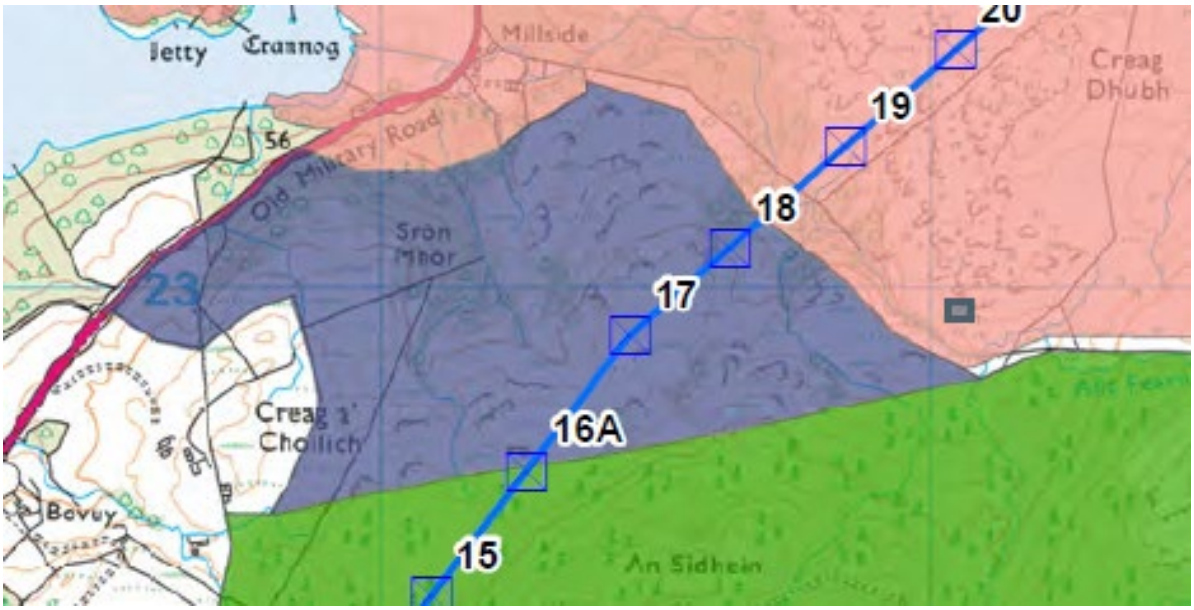

Plate 4.1: OHL section from T16 to T18

4.1.2 Achlian is affected by the Proposed Development OHL section from east of tower 18 to tower 25, **Plate 4.2**.

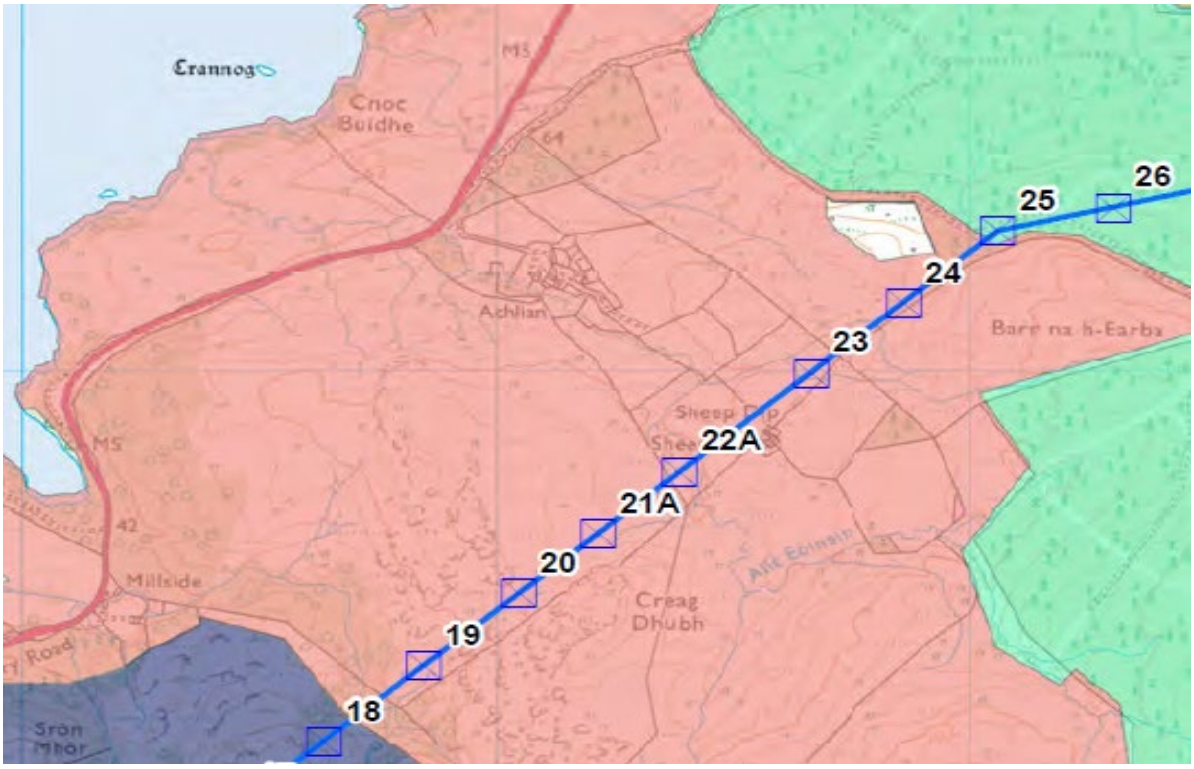

Plate 4.2: OHL T18 to T25

4.1.3 The 275 kV OHL standard tower dimensions for the Proposed Development have a width of 17 m at the widest part (crossarm) of the tower i.e. from outside conductor to outside conductor, in addition to this the safety vicinity zone from each conductor is a 4 m radius around the conductor.

4.1.4 The OHL infrastructure and minimum safety clearance distance is therefore 25 m (12.5 m either side of the OHL centreline) and this has been utilised to calculate the area of the operational corridor (OC) occupied by infrastructure. In some cases, such as angle towers the requirement may be slightly in excess of this distance, however the average minimum distance has been used in this assessment.

4.1.5 The Study Area for this assessment is based around the OC. The Applicant defines the area in which it has rights to remove woodland for the purposes of creation of new overhead lines (OHLs), 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 with reference to the distance at which a tree could fall and cause damage to the overhead line, resulting in a supply outage[1]. As a result, the final corridor width would be based on the safety distance required to allow for a mature tree falling towards the OHL at the mid-point on an OHL span between two towers, taking account of topography and tree height at maturity. Where the OC passes through areas of native woodland, it is noted that the width of woodland removal is likely to be reduced due to the lower height of the tree species present. The proposed OC illustrated in **Figure 11.4 (EIAR Volume 3a)** has been based on the likely height of the woodland at maturity and therefore, varies in width according to the woodland type present.

[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:

4.1.6 The OC width that has been assessed and identified for the safe build and energisation of the new OHL through the areas of commercial conifer woodland is 85 m (42.5 m either side of the OHL centreline).

4.1.7 The OC width that has been assessed and identified for the safe build and energisation of the new OHL through the areas of native broadleaved woodland is 60 m (30 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.

4.2 Access Track Route Design

4.2.1 Each of the properties are poorly served by existing access tracks. The Achlian property has a single access track, which forms the main driveway off the A819 public road to the property dwellings.

4.2.2 Sections of new access track are required to be built as part of the construction work scope, to service the OHL section Towers 17 to 24, crossing both properties west to east from Bovuy North to Achlian, **Figure 11.4 (EIAR Volume 3a)**.

5 Woodland Characteristics

5.1.1 The woodland properties comprise of sporadic small woodland areas of naturally regenerated broadleaves, with some small areas of conifer plantation on Achlian.

5.1.2 A desk based study of the woodland areas was conducted, utilising web based data provided by Scottish Forestry[2] and referencing the Scottish Government's Ancient Woodland Inventory[3], to identify current woodland environmental designations and classifications.

5.1.3 The Scottish Forestry Map Viewer provides spatial data on the Native Woodland Survey of Scotland and classifies the woodland types into four categories[4],

- Native woodland
- Nearly-native woodland
- Open land habitat
- Plantations on Ancient Woodland Sites (PAWS)

5.1.4 An area of 1.3 ha of broadleaved woodland located between tower 18 and 19, **Figure 11.4 (EIAR Volume 3a)** has been identified as native woodland classification.

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2 Scottish Forestry Land Information Search URL: https://map.environment.gov.scot/LIS_Agri/Agri.html
Scottish Forestry Map Viewer URL:
https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18

3 Ancient Woodland Inventory (Scotland) URL: Ancient Woodland Inventory (Scotland) - data.gov.uk

4 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 - Plantations 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 woods.

Plate 5.1: Looking west to tower location 18.

5.1.5 **Plate 5.1** shows naturally regenerated native broadleaf woodland of alder, birch, and willow tree species, located either side of the burn.

5.1.6 The operational corridor will be reduced to a maximum width of 60 m at this woodland location and prior to the construction phase this area will be assessed for further selective felling to identify if greater tree retention can be achieved. This is dependent on the requirements of safe OHL wiring operations and the access track build corridor.

Plate 5.2: Looking east to tower location 22.

5.1.7 **Plate 5.2** shows mature naturally regenerated native broadleaved woodland of oak, birch and willow tree species, located either side of the burn.

5.1.8 The operational corridor will be reduced to a maximum width of 60 m at this woodland location and prior to the construction phase this area will be assessed for further selective felling to identify if greater tree retention can be achieved. This is dependent on the requirements of safe OHL wiring operations and the access track build corridor.

6 Windthrow Risk Impact

6.1.1 The small woodland area lies on soil classified as peaty gleys[5].

6.1.2 The site is classified as moderately to highly exposed, with a Detailed Aspect Method of Scoring (DAMS) windthrow hazard class score ranging from 14 to 17. The local climate is classified as cool and wet.

6.1.3 These factors suggest that a moderate range of tree species can be grown on site.

[5] Scottish Government's Scotland's soils website Home | Scotland's soils (environment.gov.scot)

6.1.4 The small areas of native broadleaved woodland have become established on the exposed open moorland. The continued exposure, woodland structure and ground conditions are favourable for the trees remaining windfirm. These woodlands have been assessed of having minimal windthrow risk following the tree felling of the OHL operational corridor.

7 Woodland Management Impact

7.1.1 The management regime for these woodland areas is long term retention with minimal intervention. The Proposed Development will remove areas of the existing broadleaf trees, reducing the woodland cover at these locations.

8 Mitigation Opportunities

8.1.1 A reduced operational corridor width of 60 m has been assessed for the areas of native broadleaved woodland. Prior to the construction phase these areas will be assessed for further selective felling to identify if greater tree retention can be achieved.

Reference to Section 9 below, will fully mitigate the operational corridor woodland removal area by replanting the area quantity (hectares) of woodland removed.

9 Woodland Removal Impact

Table 9.1 Woodland Removal for Infrastructure

Item	Woodland Type	Area
OHL	Native broadleaved woodland	1.93 ha

Table 9.2 Compensatory Planting

Compensatory Planting Area	Mixed conifer or mixed broadleaves	1.93 ha

Table 9.3 Woodland Removal Impact of Infrastructure

Total Loss of Woodland Area	1.93 ha
Total Compensatory Planting Area	1.93 ha

10 Compensatory Planting

10.1.1 Compensatory planting to achieve the area quantity (hectares) of woodland removal will be provided for the OHL and access track operational corridor area and will be in accordance with the Scottish Government's Control of Woodland Removal Policy of no net loss of woodland[6].

[6] https://forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal/viewdocument/285

11 List of Figures