Scottish & Southern Electricity Networks

TRANSMISSION

Creag Dhubh to Dalmally 275kV Connection

Environmental Impact Assessment

Volume 4 | Appendix 11.1c

Overhead Line (OHL) Woodland Report

Property: Brackley Farm

April 2022

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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 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 Property

3.1.1 The woodland areas associated with this report are located within the landholding of Brackley Farm, **Figure 11.1 (EIAR Volume 3a)**. A privately owned farm located approximately 1.5 km east of the village of Dalmally. The woodlands/trees are located on the rough grazing pasture of the farm area.

3.1.2 The main farm access road is located at national grid reference 'NN 178 273' off the A85 public road. This road is private for farm use only.

4 Development Requirements

4.1 275kV Overhead Line

4.1.1 Reference to **Plate 4.1** and **Figure 11.1(EIAR Volume 3a),** the section of OHL applicable to the Brackley Farm property is from Tower 35 to east of Tower 46.

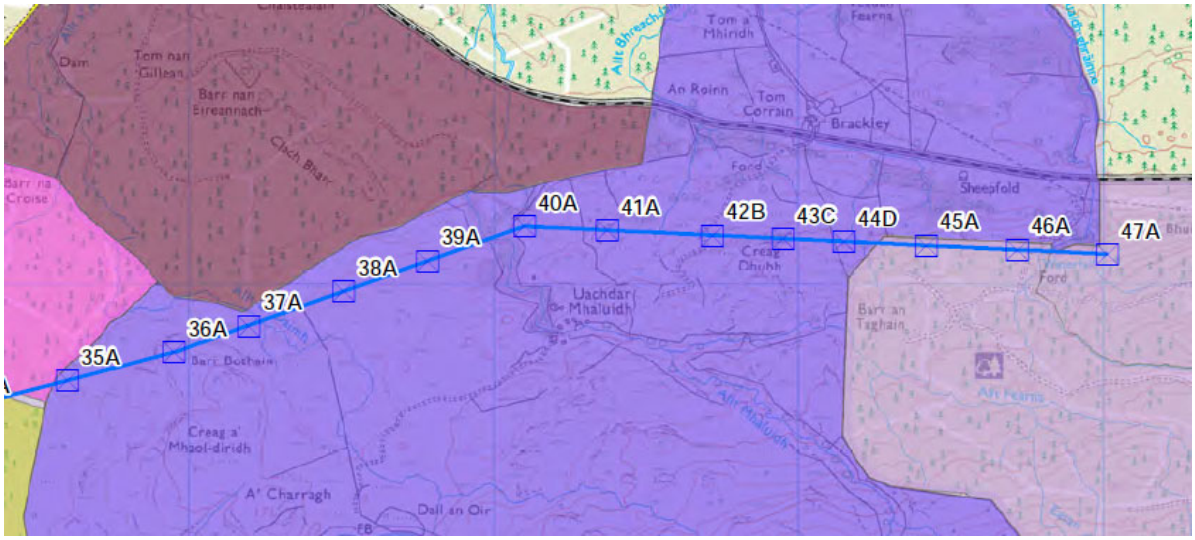

Plate 4.1: OHL T35 to T46

4.1.2 The 275 kV OHL standard tower dimensions for the project 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 4m radius around the conductor.

4.1.3 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 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.

4.1.4 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 of present.

4.1.5 The future plans of landowner woodland restructuring (clear fell and replant) have been reviewed.

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

[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)

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 The Proposed Development location on Brackley Farm is not well serviced by existing access tracks and access track construction will be required as part of the Proposed Development, **Figure 11.4 (EIAR Volume 3a)**. There is a short section of existing access track between Tower 46 and 47, which is an extension of the access track from the neighbouring property on the south of the OHL running north on to Brackley Farm.

5 Woodland Characteristics

5.1.1 The existing woodland types are localised small areas of mature native broadleaved woodland between Towers 39 and 47 **Figure 11.4(EIAR Volume 3a).**

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 1.59 ha of broadleaved woodland affected by the Proposed Development is located within the Brackley property **Figure 11.4(EIAR Volume 3a)** and 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 east to tower 40.

Plate 5.2: Looking east to tower 40

Plate 5.3: Looking west to tower 39

5.1.5 **Plates 5.1** to **5.3** shows an area of native broadleaved woodland located between Tower 39 and 40, within the riparian zone of the Allt Mhaluidh burn. The broadleaved woodland is mature and host to a range of tree species including Oak, Birch, Hazel, creating a diverse woodland habitat characteristic of National Vegetation Classification (NVC) Woodland Type – W11 “Upland oak-birch woodland”. Several small Sitka spruce trees have become established through natural regeneration.

Plate 5.4: Looking west to tower 40. Showing the open moorland pasture and area of native broadleaved woodland.

Plate 5.5: Looking east to tower 41.

5.1.6 The woodland in **Plate 5.5** is located on a knoll between Towers 41 and 42 and is an area of mature native broadleaved woodland host to a range of tree species including Oak, Birch, Hazel, creating a diverse woodland habitat characteristic of National Vegetation Classification (NVC) Woodland Type – W11 “Upland oak-birch woodland”.

Plate 5.6 - Looking East to tower 43.

5.1.7 The woodland in **Plate 5.6** is located on a small crag at Towers 43 and is an area of mature native broadleaved woodland host to Birch, Rowan and Willow tree species, ranging from approximately 2m to 8m tall. Although the woodland is quite sparse, it has a diversity of tree species characteristic of National Vegetation Classification (NVC) Woodland Type – W4 “Birch woodland”.

Plate 5.7 – Looking east along the OHL alignment to tower 45 to 47.

Plate 5.8 – Looking east to tower 46.

5.1.8 As shown in **Plates 5.7** and **5.8** the section of OHL Towers 45 to 47 is host to a young Sitka spruce restock plantation circa. 12 to 15 years old on the south side of the OHL (located within the neighbouring property) and native broadleaved woodland on the north side of the OHL. An area of open ground exists on the northern edge of the young conifer plantation. The broadleaved woodland tree species is predominantly Birch of mature of semi-mature age class and is associated with the characteristics of National Vegetation Classification (NVC) Woodland Type – W4 “Birch woodland”.

Plate 5.9: – Looking south west the access track section on Brackley Farm between towers 46 and 47.

6 Windthrow Risk Impact

6.1.1 Most of the site lies on soil classified as peaty gleys, with some pockets of mineral podzols and an area of peaty podzols on the east side[5].

6.1.2 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[6] windthrow hazard class score ranging between 14 and 17, classified as moderately to highly exposed. 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.

6.1.4 The small areas of native broadleaved woodland have become established on the exposed open moorland pasture. 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 broadleaved woodland areas will provide natural shelter for sheep and livestock, these woodland areas will be reduced after the tree felling of the OHL operational corridor. Whilst this impact is being

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

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

minimised by the reduction in the operational corridor width to 60 m and potentially narrower, the loss of some natural shelter will remain.

7.1.2 The area of woodland removal for the operational corridor will reduce the biodiversity of the existing woodland by creating additional open ground within small woodland areas.

7.1.3 The OHL alignment crosses the access track at approximately 90 degrees and will be built to the regulatory safe height clearances above access tracks, which will reduce the hazard in respect of future farm traffic use.

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.

8.1.2 The operational corridor woodland removal area is required for the construction and functioning of the new OHL infrastructure. Opportunities will be assessed for woodland replanting within the operational corridor, the identification of suitable areas cannot be guaranteed due to the requirement of maintaining the safe energisation of the OHL. 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	1.59ha

Table 9.2 Compensatory Planting

Item	Woodland Type	Area
Compensatory Planting Area	Native Mixed Broadleaves (with Mixed Conifer)	1.59ha

Table 9.3 Woodland Removal Impact of Infrastructure

Item		Area
Total Loss of Woodland Area		1.59ha
Total Compensatory Planting Area		1.59ha
Total Nett Loss of Woodland Area		**0.0ha**

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[7] of no net loss of woodland.

11 List of Figures

- Figure 11.1 - Landownership Boundary Map
- Figure 11.4 – Forestry Project Felling Maps

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