

Proposed 132kV Grid Connection to Lorg and Longburn Wind Farms



Amendments to the Preferred Route

REPORT N° 70016687-002

PROPOSED 132KV GRID CONNECTION TO LORG AND LONGBURN WIND FARMS

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PREFERRED ROUTE

NOVEMBER 2017

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SP Energy Networks

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WSP
7 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

Tel: +44 (0)131 344 2300
Fax: +44 (0)131 344 2301
www.wsp.com

1 INTRODUCTION

SP Energy Networks is proposing to construct a new 132kv 'Trident' wood pole overhead line between the proposed Lorg and Longburn Wind Farms and a suitable point on the DE Route transmission line – which is currently under construction. This is to satisfy their legal duty to provide grid connections to new electricity generating developments.

A route options study has been undertaken which identified and appraised a series of route options and resulted in the selection of a Preferred Route for the overhead line. This Preferred Route has recently undergone non-statutory consultation with a broad range of stakeholders and feedback has been received.

The purpose of this document is to demonstrate how the comments received during the consultation have been taken into consideration in respect of alterations to the Preferred Route.

This document is intended to be read in conjunction with the Proposed 132kv Grid Connection to Lorg and Longburn Wind Farms Routeing Consultation Report, April 2017, which provides full details of route option identification and appraisal process.

2 CHANGES TO THE PREFERRED ROUTE

We consulted on the Preferred Route with statutory and non-statutory consultees over a period of 12 weeks and held public exhibitions to engage with the general public on the 25th and 26th April. During the consultation period responses were received in relation to the location of the Preferred Route. In response to feedback gathered through this consultation the Preferred Route was amended as illustrated in Figure 1; which also shows the environmental constraints in the area. Table 1 summarises the changes to the Preferred Route, the responses that drove those changes and the effects on environmental factors.

Table 1: Summary of amendments to the Preferred Route

Amendment	Reasons for amendment	Change to environmental effect
Route around Holm Hill altered	Potential for visual impacts on tourists attending Knockengorroch annual festival	<u>Landscape</u> : no change <u>Visual Amenity</u> : reduced visual impact from Knockengorroch as a tourist/recreational destination. Slightly improved crossing of route to Cairnsmore of Carsphairn <u>Cultural Heritage</u> : no change <u>Biodiversity</u> : no change <u>Land use</u> : no change <u>Forestry</u> : no change <u>Waterbodies</u> : no change <u>Peat</u> : no change
Route moved from the south of Quantans Hill	Curlews, black grouse and red grouse use the south facing	<u>Landscape</u> : no change <u>Visual Amenity</u> : no change

Amendment	Reasons for amendment	Change to environmental effect
to the north	slopes of Quantans Hill	<p><u>Cultural Heritage</u>: no change</p> <p><u>Biodiversity</u>: reduced potential for effects on waders of conservation concern as preferential habitat is avoided.</p> <p><u>Land use</u>: no change</p> <p><u>Forestry</u>: no change</p> <p><u>Waterbodies</u>: no change</p> <p><u>Peat</u>: no change</p>
Route from Quantans Hill to the Lorg-Longburn Junction moved further north	<p>The change around Quantans Hill moved the route further north. The route through forestry was moved north due to concerns regarding the potential impact on forestry relating to the use of forestry plant in the vicinity of overhead lines; potential sterilisation of areas of forestry; and area of forestry impacted.</p> <p>As the application for Quantans Hill Wind Farm is not being progressed we were able to remove this constraint and follow a more direct route to join Quantans Hill to the area of forestry.</p>	<p><u>Landscape</u>: no change</p> <p><u>Visual Amenity</u>: reduced visual impacts from Knockgray Park, Marbrack and Fermiston.</p> <p><u>Cultural Heritage</u>: no change</p> <p><u>Biodiversity</u>: no change</p> <p><u>Land use</u>: reduced impact for commercial forestry operations</p> <p><u>Forestry</u>: reduced area of forestry loss.</p> <p><u>Waterbodies</u>: no change</p> <p><u>Peat</u>: potentially an increase in the area of peat to be crossed however peat data is not reliable at this stage.</p> <p>Reduced route length.</p>
Route up the Ken Valley to be moved further down the slope	<p>The preferred route passed through the centre of two commercial forestry blocks. An 11 kV overhead line already passes through these forestry blocks, lower on the hillside, close to the valley floor. Moving the line to run roughly parallel to the existing overhead line (within the forestry to the east of the existing line, slightly further from the valley floor) would minimise the potential impact on forestry both relating to the use of forestry plant in the vicinity of overhead lines and potential sterilisation of areas of forestry, without encroaching on the glen.</p>	<p><u>Landscape</u>: the potential for skylining across the flank of Auchrae Hill has been removed; although there is the potential for short term impacts on the scenic quality of the glen (until the existing trees reach sufficient height to screen the line from view)</p> <p><u>Visual Amenity</u>: an increase in the potential for visual effects, however this is unlikely to be significant in the long term because of recent native woodland planting and because the properties are generally oriented towards the valley and the line would pass 'behind' them.</p> <p><u>Cultural Heritage</u>: no change</p> <p><u>Biodiversity</u>: Route supports badger and likely otter; however any recognised impacts to such species would be manageable. Route also extends across recorded native woodland, however of young, plantation origin and therefore considered of lower value.</p> <p><u>Land use</u>: reduced impact for commercial forestry operations</p> <p><u>Forestry</u>: Potential for a small reduction in the amount of forestry loss.</p> <p><u>Waterbodies</u>: no change</p> <p><u>Peat</u>: Potentially more likely to be able to avoid BGS mapped peat deposits; although peat data is not reliable at this stage.</p>

For the route section on the eastern slopes of the River Ken valley, a comparative environmental appraisal table is included at the end of this document for further information.

3 PROPOSED ROUTE AND NEXT STEPS

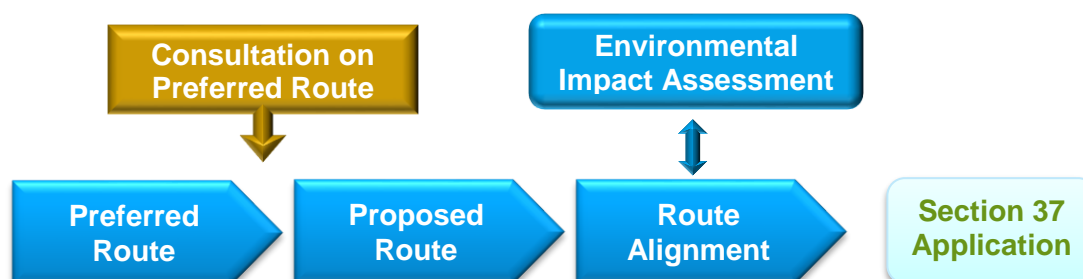
The Preferred Route, modified to take into account consultations and the consideration of specific local issues, is intended to be promoted as the Proposed Route, illustrated in Figure 2.

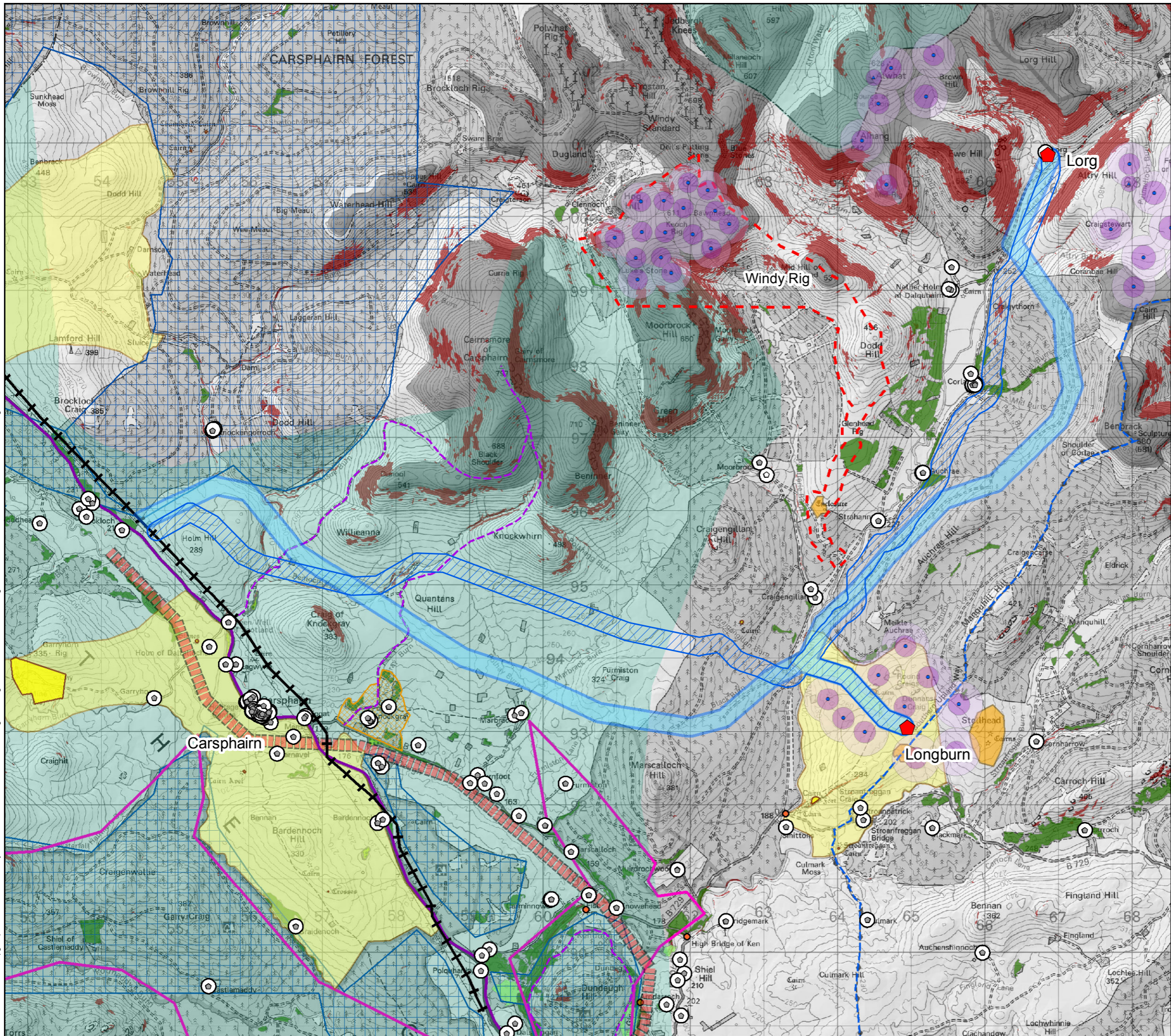
The Proposed Route will be used at the Environmental Impact Assessment (EIA) Scoping Stage during which the scope of the EIA will be determined.

A preliminary Route Alignment will then be designed within the Proposed Route, taking into account the findings on environmental effects, consultation feedback to date and technical feasibility. The resulting alignment will be taken forward to EIA. Through the EIA process this preliminary alignment will be subjected to further detailed assessment to determine its likely effect on the environment and, through an iterative process of revisions to mitigate environmental effects and technical checking and verification; a final Route Alignment will be developed, as illustrated in Chart 1 below.

The finalised Route Alignment is then taken forward to Section 37 Application.

Chart 1: Route Development Process





Key

- Windfarm Connection Point
- DE Route
- Preferred Route
- Amended Preferred Route (Proposed Route)
- Wind Turbine
- Anemometry Mast
- Topple Distance
- Wind Turbine Rotor Diameter x3
- Mountain Access Footpath
- Southern Upland Way
- Tourist Route
- Listed Building (A, B and C)
- Scheduled Monument
- Non-Designated Heritage Asset of Potential National Importance
- Non-Inventory Gardens and Designed Landscape
- Archaeologically Sensitive Area
- Residential Dwelling
- Residential Dwelling in Planning
- 100m Residential Buffer
- Dumfries and Galloway Regional Scenic Area/East Ayrshire Sensitive Landscape Character
- RSPB Important Bird Areas
- Wader/Waterfowl Flightpaths
- Red Squirrel Priority Woodland
- Native Woodland
- Nearly-Native Woodland
- Planted Ancient Woodland Site (PAWS)
- Slopes over 22°
- Areas over 500m AOD

0 1 2 3 km



Client:

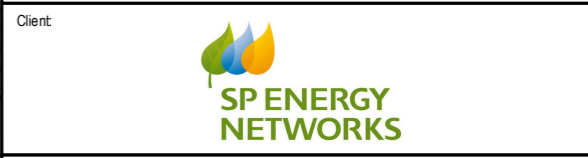
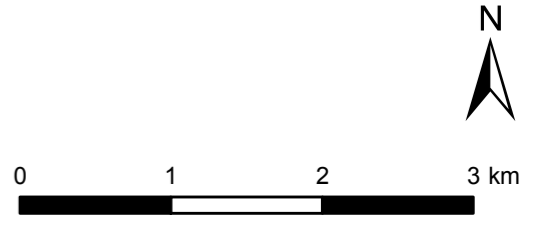
Project: **Lorg and Longburn Grid Connection**

Title: **Figure 1: Amendments to the Preferred Route**

Date: 29th November 2017 Scale: 50,000 @ A3
 Drawn: PM Checked: MM Approved: SM



- Key**
- Windfarm Connection Point
 - DE Route
 - Proposed Route



Client: **SP ENERGY NETWORKS**

Project: **Lorg and Longburn Grid Connection**

Title: **Figure 2:
Proposed Route**

Date: 29th November 2017 Scale: 50,000 @ A3
 Drawn: PM Checked: MM Approved: SM

Lorg and Longburn Grid Connection

Route Option Appraisal – Comparative appraisal of C4 and C4a (alternative route through the lower slopes of the forestry block, predominantly parallel to the existing 11 kV line).

CRITERION	Sub-Criteria	C4	C4a (along 11 kV line)
Landscape	Regional Scenic Areas	n/a	n/a
	Landscape	Most of route through area of lower scenic value - forestry (generally following forest track / parcel edges) across the mid-slope of the Water of Ken valley. However likely skylining across the flank of Auchrae Hill.	Runs down the edge of relatively attractive flat-bottomed valley (part of the Narrow Wooded Valley LCT) generally slightly above the valley floor. Landscape element most affected would be conifer plantation and deciduous edge planting. There would be a degree of local intrusion but this will reduce over time as the recent deciduous woodland planting matures. Overall a reasonable 'landscape fit' (meets Holford Rule 5)
Appraisal		Reasonable landscape fit except at Auchrae Hill.	A reasonable fit to the form of the landscape – a slightly more 'natural' line than C4. However it would potentially affect the scenic quality of the glen in the short term.
Visual amenity	Visual Amenity: Residential	2 properties potentially significantly affected at Craigengillan	About a dozen properties along the valley potentially affected. Passes within 200 m of 8 properties (of which 2 may be holiday lets) but away from main aspect. No major adverse effects except potentially at Craigengillan (as C4), however screening from coniferous plantation is anticipated to reduce the significance of this effect
	Visual Amenity: Recreation and Tourism: key viewpoints promoted viewpoints, tourist attractions and recreational areas)	No known key viewpoints, tourist attractions or recreational areas affected (there is a signed footpath link to the Southern Upland Way and a core path in the upper valley but these appear to be little used)	No known key viewpoints, tourist attractions or recreational areas affected (there is a signed footpath link to the Southern Upland Way and a core path in the upper valley but these appear to be little used)
Appraisal		Limited potential for visual effects.	More potential visual effects than C4 due to closer proximity to residential receptors however the distance from the receptors is at least 100m, it is located away from the main aspect for all but Craigengillan and the effects are unlikely to be significant in the long term because of recent deciduous woodland planting and existing coniferous plantation providing screening.

CRITERION	Sub-Criteria	C4	C4a (along 11 kV line)
Cultural Heritage	Scheduled Monuments	<p>One lies within 2 km of all the route options; Craigengillan, cairn (SM2238). The cairn is located within commercial forestry and is not visible from the public highway at present. In the absence of forestry the setting of the cairn is most likely to be affected by routes passing in close proximity to it. If routed to the north and west of the cairn it is possible this would reduce the potential for setting effects when compared to routing to the south and east.</p> <p>Although within the 2 km buffer, Stroanfreggan Craig, fort, Smittens Bridge (SM1095) has been appraised with the 'B' route options as they are closer and therefore have a greater potential for setting effects. This approach avoids duplication.</p>	<p>One lies within 2 km of all the route options; Craigengillan, cairn (SM2238). The cairn is located within commercial forestry and is not visible from the public highway at present. In the absence of forestry the setting of the cairn is most likely to be affected by routes passing in close proximity to it. If routed to the north and west of the cairn it is possible this would reduce the potential for setting effects when compared to routing to the south and east.</p> <p>Although within the 2 km buffer, Stroanfreggan Craig, fort, Smittens Bridge (SM1095) has been appraised with the 'B' route options as they are closer and therefore have a greater potential for setting effects. This approach avoids duplication.</p>
	Listed Buildings	None within 2 km of all route options	None within 2 km of all route options
	Archaeologically Sensitive Areas (ASA)	One ASA is located within the route, Stroanfreggan ASA	One ASA is located within the route, Stroanfreggan ASA
	Non-Designated Heritage Asset of Potential National Importance	One lies within 2 km of all route options and marginally within C2, Glenhead Rig	One lies within 2 km of all route options and marginally within C2, Glenhead Rig
	Non-Designated Heritage Asset -Other (recorded within D&G HER)	<p>The following features are of regional / local importance and lie within the route:</p> <p>Scalloch / Little Auchrae Farmstead, Field System (MDG11404); Scalloch, Sheep Fold (MDG25731).</p> <p>These features could be avoided during alignment.</p>	<p>The following features are of regional / local importance and lie within the route:</p> <p>Scalloch / Little Auchrae Farmstead, Field System (MDG11404); Scalloch, Sheep Fold (MDG25731); Strahanna Bridge / Halfmire (MDG15853). Polcheskie Craigs (MDG3911)</p> <p>These features could be avoided during alignment.</p>
Appraisal		The route passes within the Stronfreggan ASA and towers would need to be constructed within it. This option is therefore less favourable	The route passes within the Stronfreggan ASA and towers would need to be constructed within it. This option is therefore less favourable

CRITERION	Sub-Criteria	C4	C4a (along 11 kV line)
Biodiversity and Nature Conservation	Ornithology	Barn owl roost c. 0.5 km southeast of route option. Potential to support crossbill in conifer plantation although not optimal habitat.	Route option c.0.5 km from black grouse lek site. Habitat appears suitable for nightjar in area of clearfell and restocked plantation. Suitable habitat for crossbill in more mature plantations. At Auchrae Farm three brick outbuildings providing potential nesting habitat for barn owl.
	Badger	Not applicable	Suitable habitat for badger as provides foraging and setting areas. A badger latrine with multiple pits and fresh dung was recorded by Holm of Dalquhairn Bridge, within the route option, confirming an active badger territory to be present within the area.
	Bat		Suitable foraging and commuting habitat present, especially along the Water of Ken and along plantation edge habitat. Bat roosting opportunities within out buildings at Auchrae Farm.
	Pine marten	Limited suitable habitat present.	Suitable habitat limited to plantation woodland and fringes.
	Otter	Route option crosses multiple watercourses, with limited potential to support otter.	Route option partially follows Water of Ken, considered highly likely to support otter; however exact route will be buffered within plantation.
	Red squirrel	Route passes through extensive plantation forest, much of which has been clearfelled or subsequently replanted and is of limited use to red squirrel.	Route passes through extensive plantation forest, much of which has been clearfelled or subsequently replanted and is of limited use to red squirrel.
	Habitat / GWDTE / Native woodland (NWSS)	Plantation forest throughout.	Habitat comprises actively managed plantation woodland, with rides and edge habitat of marshy grassland, wet heath and semi-improved acid grassland. Native woodland present within the wider option; however appeared to have been felled and replanted.
Appraisal		Route extends along/close to an existing forest track and through managed habitat with limited ecological potential. Limited ornithological potential.	Route extends predominantly through managed habitat with limited ecological potential. Limited ornithological potential. Route supports badger and likely otter; however any recognised impacts to such species would be manageable. Route also extends across recorded native woodland, however of young, plantation origin and therefore considered of lower value.
Land Use	Existing and Committed Development.	None	None
	Valid Planning Applications	None	None
	Predominant land use and agriculture	Commercial forestry	Commercial forestry
Appraisal		No likely significant effects identified	No likely significant effects identified

CRITERION	Sub-Criteria	C4	C4a (along 11 kV line)
Forestry / Woodlands		Passes through broad sections of commercial forestry. Will be able to use forest tracks and forest rides.	Passes through broad sections of commercial forestry. Runs parallel to an existing wayleave for approximately 2/3 of the route thus reducing the forestry loss and reducing impact on forestry operations by keeping the two OHL together. Preferable to C4.
Flood Zones and Waterbodies		Crosses the Auchrae Burn and Water of Ken high flood risk areas. Less than 100m span of flood risk area.	Crosses the Auchrae Burn and Water of Ken high flood risk areas. Less than 100m span of flood risk area.
Peat		Small area of BGS peat cannot be avoided	Small area of BGS peat can be avoided

