Scottish & Southern Electricity Networks

TRANSMISSION

Consultation Document – Alignment Selection

Spittal to Loch Buidhe to Beauly Proposed 400 kV OHL

May 2024

Scottish & Southern Electricity Networks
TRANSMISSION

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Figures

GLOSSARY

Term	Definition
Above Ordnance Datum (AOD)	It is a vertical datum used by an Ordnance Survey as the basis for deriving altitudes on maps.
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SSEN Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Ancient Woodland	In Scotland, Ancient Woodland are areas of woodland that have existed since 1750 and are relatively undisturbed by human development. They are considered irreplaceable and have complex biodiversity that have accumulated over hundreds of years.
Ancient Woodland Inventory (AWI)	The Ancient Woodland Inventory (AWI) is a provisional guide to the location of Ancient Woodland and has three categories of woodland: i. Ancient Woodland (1a and 2a) - Interpreted as semi-natural woodland from maps of 1750 (1a) or 1860 (2a) and continuously wooded to the present day. If planted with non-native species during the 20th century they are referred to as Plantations on Ancient Woodland Sites (PAWS). ii. Long-established woodlands of plantation origin (LEPO) (1b and 2b) - Interpreted as plantation from maps of 1750 (1b) or 1860 (2b) and continuously wooded since. Many of these sites have developed semi-natural characteristics, especially the oldest ones, which may be as rich as Ancient Woodland. Other woodlands on 'Roy' woodland sites (3) - Shown as unwooded on the 1st edition maps but as woodland on the Roy maps. Such sites have, at most, had only a short break in continuity of woodland cover and may still retain features of Ancient Woodland.
Biodiversity Net Gain (BNG)	It is an approach to development which makes sure that habitats for wildlife are left in a measurably better state than they were before the development.
Biodiversity Units (BU)	Biodiversity units are the metric used to quantify the biodiversity gains and losses of a development.
Birds of Conservation Concern	Birds of Conservation Concern (BoCC) provides the status of all regularly occurring birds in the UK, Channel Islands and Isle of Man. The current version is BoCC 5. Birds of highest conservation concern will appear on the Red List.
Buglife B-Lines	B-Lines are a series of 'insect pathways' running through the countryside and towns. B-Lines link existing wildlife areas together, creating a network that will weave across the UK landscape. This will provide large areas of brand new habitat benefiting bees and butterflies.
Class 1 and Class 2 Peatland	Class 1 – Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value. Class 2 – Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential.
Construction Environmental Management Plan (CEMP)	A site specific environmental management plan setting out the environmental management procedures, legislation and requirements for a particular project and site.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.

Term	Definition
Corridor	A linear area which allows a continuous connection between the defined connection points. The corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Drinking Water Protected Areas (DWPA)	Bodies of surface water and groundwater identified in the Water Environment (Drinking Water Protected Areas) (Scotland) Order 2013 which are used for the abstraction of water intended for human consumption.
Effect	The direct or indirect physical consequence(s) of the proposed alignment option on receptors, under each of the various topic headings.
Electricity System Operator (ESO)	National Grid is the Electricity System Operator (ESO) for Great Britain. The ESO balances electricity supply and demand to ensure the electricity supply.
Environmental Impact Assessment (EIA)	Environmental Impact Assessment. A formal process codified by EU directive 2011/92/EU, and subsequently amended by Directive 2014/52/EU. The national regulations are set out in The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The EIA process is set out in Regulation 4(1) of the regulations and includes the preparation of an EIA Report by the developer to systematically identify, predict, assess and report on the likely significant environmental impacts of a proposed Project or development.
Freshwater Pearl Mussel (FWPM)	It is an endangered species of mollusc, found in clean, nutrient poor low-calcium rivers.
Gardens and Designed Landscapes (GDLs)	The Inventory of Gardens and Designed Landscapes lists those gardens or designed landscapes which are considered by a panel of experts to be of national importance.
Geological Conservation Review (GCR)	The Geological Conservation Review (GCR) is a process to select areas of national and international importance for their geology and geomorphology within Great Britain.
Geology	The study of the rocks and similar substances that make up the earth's surface.
Gigawatt (GW)	One billion watts.
Ground Water Dependent Terrestrial Ecosystem (GWDTE)	Wetlands which critically depend on groundwater flows. They are safeguarded by the Water Framework Directive (WFD) and are sensitive to hydrological and ecological changes.
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Habitat Map of Scotland (HABMOS)	It is the national repository for habitat and land use data. The map adopts internationally recognised data and habitat classification standards.
Heating, Ventilation, and Air Conditioning (HVAC)	It is the use of various technologies to control the temperature, humidity, and purity of the air in an enclosed space.
High Voltage Direct Current (HVDC)	A high voltage, direct current (HVDC) electric power transmission system uses direct current for electric power transmission, in contrast to the more common alternating current systems. Most HVDC links use voltages between 100 kV and 800 kV.
Holistic Network Design (HND)	The Holistic Network Design (HND) sets out the strategic network infrastructure to deliver 2030 offshore wind targets. This has been developed through the Offshore Transmission Network Review (OTNR), with the Electricity System Operator (ESO) working closely with SSEN Transmission and other GB Transmission Operators to deliver a more coordinated design, while ensuring an appropriate balance between environmental, social and economic costs.

Term	Definition
Holford Rules	Referenced in Guidelines for The Routeing of New High Voltage Overhead Transmission Lines with NGC 1992 And SHETL 2003 Notes.
Hydrogeology	A branch of geology concerned with the occurrence, use, and functions of surface water and groundwater.
Hydrology	The study of water on and beneath the earth's surface, with regards to its occurrence, distribution, movement and properties as well as its relationship with the environment within each phase of the water cycle.
Important Invertebrate Areas (IIAs)	Important Invertebrate Areas (IIAs) are the best places in Great Britain for the invertebrates, which have been identified using the most up-to-date data available from over 80 national expert recording schemes. They support some of the rarest and most threatened species, vulnerable habitats and unique assemblages of invertebrates.
Irreplaceable Habitat	Irreplaceable habitats are habitats which are very difficult (or take a very significant time) to restore, recreate or replace once destroyed, due to their age, uniqueness, species diversity and rarity.
Kilovolt (kV)	One thousand volts.
Land Capability for Agriculture (LCA)	It is a global land evaluation ranking that groups soils based on their potential for agricultural purpose.
Landscape Character Type (LCT)	A distinct, recognisable and consistent pattern of elements in a landscape that differentiate the area from another.
Level of Impact	The outcome of a comparative appraisal of the combination of effects within a specific topic along a specific corridor option after a consideration of the potential for mitigation, using professional judgement based on experience.
Limit of Deviation (LOD)	The area either side of the proposed alignment within which micrositing of structures may take place in accordance with the conditions of the section 37 consent.
Listed Building	Building included on the list of buildings of special architectural or historic interest and afforded statutory protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other planning legislation. Classified categories A – C.
Local Nature Reserve	Areas of natural heritage that are locally important.
Long-Established woodlands of Plantation Origin (LEPO)	LEPO refers to the wooded areas that have a continuous history of being wooded since at least 1750.
Micro-siting	The process of positioning individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or alleviation of adverse impacts.
National Cycle Network (NCN)	It offers a collection of signed walking and cycling paths connecting Scotland's cities, towns and countryside.
NCR	The National Cycle Routes are a UK-wide network of signed paths and routes for walking, wheeling, cycling and exploring outdoors.
National Nature Reserve	Areas of natural heritage that are nationally important.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be outstanding scenic value in a national context.
Native Woodland Survey of Scotland (NWSS)	It identified and mapped the location, extent, type and condition of all of Scotland's native woodlands.

Term	Definition
Network Options Assessment (NOA)	The National Grid's Network Options Assessment (NOA) provides their recommendation for which network reinforcement Projects should receive investment, and when.
Ornithology	The study of birds, their behaviour, physiology and taxonomy.
Overhead line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or poles.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Potential Alignment	The alignment which SSEN Transmission believes offers the best balance of technical and environmental impact considerations identified through initial assessment. This is then subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference. Once the initial preference is confirmed, this becomes the Proposed Alignment to take forward to consent application.
Private Water Supply (PWS)	It is the water supply that is not provided by Scottish Water.
Proposed Alignment	The Proposed Alignment presents the outcome following consultation and is taken forward to detailed design and section 37 consent application.
RAG Rating	A Red, Amber, Green rating provided to assess the potential impact of the proposed OHL.
Ramsar	A wetland site designated to be of international importance under the Ramsar Convention.
Route	A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified pinch points / constraints), which provides a continuous connection between defined connection points.
Routeing	The work undertaken which leads to the selection of a Proposed Alignment, capable of being taken forward into the consenting process under section 37 of the Electricity Act 1989.
Schedule 1 Species	Birds listed on the Schedule 1 of the Wildlife & Countryside Act 1981, of which it is an offence to intentionally or recklessly disturb at, on or near an 'active' nest.
Scheduled Monument	A monument which has been scheduled by the Scottish Ministers as being of national importance under the 'Ancient Monuments and Archaeological Areas Act 1979'.
Scottish Environment Protection Agency (SEPA)	Scotland's principal environmental regulator, protecting and improving Scotland's environment.
Scottish Water (SW)	Scottish Water is a public company that provides public drinking water and sewerage services across Scotland. It is accountable to the public through the Scottish Government.
Semi-natural Woodland	Woodland that does not obviously originate from planting. The distribution of species will generally reflect the variations in the site and the soil. Planted trees must account for less than 30% of the canopy composition
Shellfish Water Protected Areas (SWPAs)	These are designated regions which are assessed and classified by the SEPA where water quality is monitored to ensure the safety of shellfish for consumption.
Sites and Monument Record (SMR)	Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments.
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.

Term	Definition
Span	The Section of overhead line between two structures.
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.
Special Landscape Area (SLA)	Landscapes designated by councils, which are considered to be of regional/local importance for their scenic qualities.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive74/409/EEC) to protect important bird habitats. Implemented under the Wildlife and Countryside Act 1981.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Study Area	The area within which the corridor, route and alignment study takes place.
Target Species	Legally protected and notable species of conservation concern.
The National Grid	The electricity transmission network in the Great Britain.
Vantage Point (VP)	A place, especially a high place, that provides a good, clear view of an area.
Volts	The international unit of electric potential and electromotive force.
Water Framework Directive (WFD)	European Community (EC)'s Water Framework Directive, sets out rules to halt deterioration in the status of water bodies and achieve good status for Europe's rivers, lakes and groundwater.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and Scottish Hydro Electric Transmission.
Wild Land Area (WLA)	Those areas comprising the greatest and most extensive areas of wild characteristics within Scotland.

1. INTRODUCTION

1.1 Purpose of the Document

This Consultation Document has been prepared by ERM Ltd ('ERM') on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission). SSEN Transmission, operating under licence held by Scottish Hydro Electric Transmission plc, owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands. This Consultation Document invites comments from all interested parties on the Potential Alignment identified for a new 400 kilovolt (kV) overhead line (OHL) to connect into proposed new substation sites at Spittal, Loch Buidhe and Beauly.

This Consultation Document describes the alignment study undertaken, how any alternatives have been considered and the identification of an alignment which is currently preferred above others based on it providing the best balance of environmental constraints, technical requirements and cost considerations following our initial study. This option is referred to, for the purpose of this document and subsequent consultation, as the Potential Alignment[1]

Comments are now sought from statutory authorities, key stakeholders, elected representatives and the public on the alignment selection process undertaken and the Potential Alignment identified.

All comments received will inform further consideration of the Potential Alignment with a view to confirming a Proposed Alignment to be taken forward to consent application. The Proposed Alignment may contain modifications to the Potential Alignment presented, and / or may incorporate sections of alternative alignment options following the conclusion of stakeholder and landowner consultation.

The Consultation Document is available online at the Project website:

https://www.ssen-transmission.co.uk/projects/project-map/spittal--loch-buidhe--beauly-400kv-connection/

To complement this Consultation Document, a digital storymap has been developed, which presents the key information included herein, alongside interactive maps and images. The digital storymap can be accessed online at the project web page via the link above.

1.2 Document Structure

This report is comprised of the following Sections:

1. Introduction – setting out the purpose of the Consultation Document and document structure.
2. The Proposals – describes the need for the proposals, the strategic alternatives considered, the proposed technology solution, a description of the proposals and the typical construction methods.
3. Alignment Selection Process – sets out the alignment selection process and methodology that has been applied to date to derive a Potential Alignment.
4. Alignment Options - provides a description of the alignment options.
5. Comparative Analysis of Potential Alignments – summarises the key considerations of each alignment from an environmental, engineering and economic perspective, and provides a comparative appraisal of each alignment option in order to select a Potential Alignment.
6. Potential Alignment – summarises the overall Potential Alignment.
7. Consultation on the Proposals – invites comments on the alignment assessment process and identification of the Potential Alignment.

   Appendix A: Alignment Appraisal Detail

[1] For Alignment Consultation there has been a change in wording from "Preferred" to "Potential" following our route consultation exercise in Spring 2023. Feedback from stakeholders about the use of our term "Preferred Option" created a perception that decisions may have already been taken. This clarification aims to address these comments.

1.3 Providing Feedback

As part of the consultation exercise, comments are sought from members of the public, statutory consultees and other key stakeholders on the Potential Alignment and Alternative Alignments put forward in this report.

When providing comments and feedback on this Consultation Document, SSEN Transmission would be grateful for your consideration of the questions below:

- Has the approach taken to select the Potential Alignment(s) in your section of interest been clearly explained?
- Do you have any specific concerns relating to the alignment options within your section of interest? If so, is there anything we could do to mitigate the impact of this?
- Is there anything you'd like to bring to our attention regarding the Potential Alignment(s) that you believe we may not have already considered such as environmental designations, water courses, local recreational areas etc.?
- Do you feel, on balance, that the Potential Alignment selected is the most appropriate for further consideration at the Environmental Impact Assessment stage?
- SSEN Transmission is currently developing a Community Benefit Fund to support communities in areas with new infrastructure. What suggestions for social or environmental community benefit opportunities do you have that you would like us to consider, or are there any local initiatives you would like us to support?

Comments on this Consultation Document should be sent to:

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All comments are requested by **Monday 22nd July 2024.**

1.4 Next Steps

Following consultation, a Report on Consultation (RoC) will be produced which will document the consultation responses received, and the decisions made in light of these responses. The Proposed Alignment will then be confirmed which will be taken forward into the Environment Impact Assessment (EIA).

Consent under Section 37 of the Electricity Act 1989 will be sought from the Energy Consents Unit (ECU) of the Scottish Government for the proposed new OHL infrastructure.

2. THE PROPOSALS

2.1 The Need for the Project

In order to support the continued growth in onshore and offshore renewables across the north of Scotland, supporting the country's drive towards Net Zero, further investment in network infrastructure is needed to connect this renewable power and transport it from source to areas of demand across the country.

Extensive studies completed to inform the Electricity System Operator' (ESO)'s 'Pathway to 2030' Holistic Network Design (HND) study[1] have identified the need to reinforce the onshore corridor from Spittal to Beauly via Loch Buidhe. Providing a new 400 kV connection between these locations enables the significant power transfer needed to take power from large scale onshore and offshore low carbon renewable generation connecting from the proposed locations north of Beauly onwards to the east at Peterhead (via a new Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL) from Peterhead the energy will be transmitted offshore via two subsea HVDC links to England. The additional connection points proposed at Spittal, Loch Buidhe and Beauly are also needed to pick up power en route from additional large scale offshore and onshore low carbon renewable generation required to connect into other parts of Scotland and beyond.

This need was supported by instruction to 'proceed' in National Grid's Network Options Assessment (NOA) Refresh Report 2021/22[2].

Further information on SSEN Transmission Pathway to 2030 can be found at the following address: https://www.ssen-transmission.co.uk/projects/2030-projects/2030-need/.

2.2 Project Overview

The project is referred to as the Spittal to Loch Buidhe to Beauly 400 kV OHL Project (and hereafter as 'the Project') and will pass through the local planning authority area of Highland. The Project comprises the following elements:

- construction of approximately 95 kilometres (km) of a new 400 kV double circuit steel lattice OHL between the new substation sites proposed at Spittal (Banniskirk 400 kV substation) and Loch Buidhe (Carnaig 400 kV substation);
- construction of approximately 75 km of a new 400 kV double circuit steel lattice OHL between the new substation sites proposed at Loch Buidhe (Carnaig 400 kV substation) and Beauly (Fanellan 400 kV substation);
- rationalisation and crossings of the existing transmission network; and
- associated ancillary works.

The location of the new substations required at Spittal, Loch Buidhe and Beauly, into which the OHL will connect, has been informed by separate site selection studies and consultation with stakeholders and the public. The substation developments are being progressed separately and do not form part of this OHL Project

2.3 Proposals Overview

The Project would comprise steel lattice towers from the SSEN Transmission ASTI SSE400 tower suite, with an average height of 57 m.

The size of towers and span lengths is generally dependent on three main factors: altitude; weather; and the topography of the route. Towers are typically closer together at high altitudes to withstand the effects of greater exposure to high winds, ice and other weather events. Higher towers may be required in certain locations to maintain the required ground clearance heights, such as at road, river and rail crossings.

The proposed steel lattice towers would support six conductor bundles (three wires per bundle) on six cross-arms (three on each side) and an earth wire between the peaks. Typical tower designs can be seen in **Plate 2.1**[2].

Plate 2.1 – Existing SSE400 steel lattice tower design

2.4 Construction Activities

The main construction elements associated with the Project are anticipated to include:

- establishment of temporary construction compound(s);
- establishment of permanent stoned access to areas identified as requiring ongoing future operational access;
- establishment of temporary construction access to areas where permanent access is not operationally required, and subsequent removal of these tracks;
- establishment of suitable temporary laydown areas for materials and working areas for tower foundations and erection equipment, and subsequent removal post construction
- delivery of components and materials to site;
- public road and track improvements as required;
- localised undergrounding or realigning of sections of distribution overhead lines that cross or are within safety clearances of the alignment; localised undergrounding or realigning of sections of existing transmission 132 kV and 275 kV OHLs that cross or are within safety clearances of the alignment;
- establishment of temporary diversions of existing OHLs where necessary to enable undergrounding or realignment;
- construction of approximately 170 km of 400 kV double circuit OHL;

2 The existing SSE400 tower suite design is currently being modified to provide stronger tower structures. The final tower design and appearance may differ slightly from the existing SSE 400 tower suite shown in Plate 2.1

- remedial works would be carried out to reinstate the immediate vicinity, and any ground disturbed to pre-existing condition where possible; and
- inspections and commissioning.

All construction activities will be undertaken in accordance with a Construction Environmental Management Plan (CEMP) which will define specific methods for environmental survey, monitoring and management throughout construction. A CEMP will be produced by the contractor and agreed with statutory stakeholders prior to the commencement of construction.

2.5 Programme

It is anticipated that construction of the proposed OHL would take place over a four-year period, although detailed programming of works would be the responsibility of the Principal Contractor in agreement with SSEN Transmission. Subject to gaining the necessary consents, it is anticipated that construction would commence in Spring 2026, with an estimated completion date of Autumn 2030.

3. ALIGNMENT SELECTION PROCESS

3.1 Introduction

The approach to alignment selection has been informed by SSEN Transmission's guidance 'Procedures for Routeing OHLs and Underground Cables of 132 kV and above'[3]. This guidance considers within it the Holford Rules[4], which sets out a hierarchical approach to routeing which advocates avoiding areas of high amenity value, minimises changes in direction, and takes advantage of topography to minimise visual interaction with other transmission infrastructure.

The guidance document sets out SSEN Transmission's approach to selecting a corridor, route or alignment for an OHL. This document helps SSEN Transmission to meet its obligations under Schedule 9 to the Electricity Act 1989, which requires transmission licence holders:

- to have a regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interests; and
- to do what they reasonably can to mitigate any effect that the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.

The guidance develops a process which aims to balance these environmental considerations with technical and economic considerations throughout the Project.

The guidance splits a Project into the following key stages:

- Stage 0: Routeing Strategy Development;
- Stage 1: Corridor Selection;
- Stage 2: Route Selection;
- Stage 3: Alignment Selection; and
- Stage 4: EIA and consenting.

The stages that are carried out can vary depending on the type, nature of and size of a Project and consultation is usually carried out at each stage of the process. The Project is currently at **Stage 3 Alignment Selection**.

This study has involved the following four key tasks:

- identification of the baseline situation;
- identification of alternative alignment options;
- environmental analysis of alignment options; and
- identification of a Potential Alignment.

3.2 Methodology

3.2.1 Area of Search

The extent of the area of search, hereafter referred to as the study area, has been defined by the Proposed Route identified at the end of Stage 2: Route Selection for the Spittal to Beauly 400 kV and additional route options considered as part of public feedback.

[3] SSEN Transmission (September 2020). Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above. Revision 2.
[4] Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines with NGC 1992 and SHETL 2003 Notes.

3.2.2 Baseline Conditions

A series of desk-based studies and site visits were undertaken to identify a broad range of potential constraints and opportunities at the route selection stage. The following additional information has been taken on board for the alignment selection stage:

- feedback obtained during the route selection stage from both stakeholder and public consultation; and
- initial ecological, ornithological, cultural heritage and landscape site visits.

3.2.3 Alignment Options Identification and Selection Methods

The process for identifying alignment options within the study area used a combination of the following:

- An initial alignment and alternatives were identified taking into account the presence of environmental and engineering constraints, their protection buffers, and consideration for feedback received from communities, landowners and other stakeholders.
- The initial identified alignment options were refined by the wider Project team including experienced Environmental Consultants and OHL Engineers to take into account topography, land cover and environmental constraints and the Holford Rules, and amending them as necessary; or including alternative alignments.
- The following Projects which are running in parallel also needed to be accommodated as they directly impact the alignment identification process due to the requirement to connect into them:
    - New Spittal Area 400 kV Substation and HVDC Converter Station (Banniskirk);
    - New Loch Buidhe Area 400 kV Substation (Carnaig); and
    - New Beauly Area 400 kV Substation and HVDC Converter Station (Fanellan).

3.2.4 Appraisal Method

Environmental Criteria

A series of appraisals has been carried out by experienced professionally qualified individuals in the various specialist fields to enable an informed combined opinion on how the potential environmental effects identified could influence potential alignment options. Appraisal of alignment options has involved systematic consideration against the following environmental topic areas:

- Natural Heritage – Designations, Protected Species, Habitats, Ornithology and Hydrology/Geology (including peat);
- Cultural Heritage – Designations and Cultural Heritage Assets;
- People – Proximity to Dwellings;
- Landscape and Visual – Designations and Visual Amenity;
- Land Use – Agriculture, Forestry, Recreation and Tourism; and
- Planning –Proposals within the planning system.

Engineering Criteria

Appraisal of alignment options has involved systematic consideration against the following engineering topic areas:

- Infrastructure Crossings – Major Crossings and Road Crossings;
- Ground Conditions – Terrain and Peat;
- Construction & Maintenance – Angle Towers; and
- Proximity – Clearance Distance.

Economic Criteria

Appraisal of alignment options has involved systematic consideration against the following economic topic areas:

- Capital – Construction, Diversions, Public Road Improvements, Tree Felling, Land Assembly and Consent Mitigations; and
- Operational – Inspections and Maintenance.

Comparative Appraisal

To identify the potential alignment which achieves the best balance between the technical, environmental and cost considerations a series of multi-disciplinary workshops were held which focussed on differences between the alignment options and ways of avoiding or minimising the interaction with a constraint.

3.2.5 Identification of a Potential Alignment

The overall objective throughout the appraisal of alignment options is to take full consideration of all environmental, engineering and cost factors to minimise any potential adverse impacts on the environment. Alignment options have been considered in combination to arrive at a Potential Alignment for the Project. The Potential Alignment is currently preferred, following initial internal appraisal, based on it providing the best balance of these considerations.

3.2.6 Identification of a Proposed Alignment

Following the consultation period, the consultation feedback and SSEN Transmission's responses, to both the alignment options and refined routes, will be reported in a Report on Consultation document which will be made publicly available. Its purpose is to record the stakeholder feedback received during the consultation process; explain how SSEN Transmission has responded, and how it has informed the selection of the Proposed Alignment.

The Potential Alignment will be subject to further review after consultation to ensure feedback is considered fully before a Proposed Alignment is identified and taken forward to detailed design and section 37 consent application.

4. ALIGNMENT OPTIONS

This Section provides a description of the alignment options, which have been divided into two sections for delivery: Northern [Spittal (Banniskirk) to Loch Buidhe (Carnaig)] and Southern (Loch Buidhe (Carnaig) to Beauly (Fanellan)]. These sections are further subdivided into subsections for ease of presentation and comparative appraisal; the subsections reflect those options previously presented during public events to illustrate the potential routes. The alignment options are presented in **Section 5** and described below.

4.1 Northern Section

SECTION A: SPITTAL TO BRORA

4.1.1 ***Section A1.1***

Potential

Potential Alignment A1.1 extends from the proposed Banniskirk Substation in a south easterly direction for approximately 4 km before turning south, running adjacent to the eastern bank of the Loch of Toftingall and east of Halsary Wind Farm for approximately 3 km. The length of the Potential Alignment is approximately 8.3 km.

Alternative

Alternative Alignment A1.1 extends from the proposed Banniskirk Substation in a south easterly direction for approximately 8.5 km, where it turns west c. 3 km to the east of Halsary Wind Farm. The length of the Alternative Alignment is approximately 12 km.

4.1.2 ***Section A1.2***

Potential

Potential Alignment A1.2 continues south from Halsary Wind Farm. This alignment follows the eastern side of the A9, running through Achavanich and between Lochs Rangag and Stemster. The length of the Potential Alignment in this section is approximately 12.7 km.

Alternative

Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

4.1.3 ***Section A1.3***

Potential

Potential Alignment A1.3 crosses the A9 at Crofts of Benachieltin a south westerly direction from a point near to Braehungie. The length of the Potential Alignment in this section is approximately 1.1 km.

Alternative

Alternative Alignment A1.3 crosses the A9 at Crofts of Benachielt in a south westerly direction but to the north of the Potential alignment. The length of the Alternative Alignment in this section is approximately 1 km.

4.1.4 ***Section A1.4***

Potential

Potential Alignment A1.4 continues south, inland of the A9 and existing 132 kV line. The alignment passes the village of Houstry and Buolfruich Wind Farm and is to the west of the villages of Dunbeath and Berriedale before reaching the western outskirts of Helmsdale. This section is approximately 27.5 km.

Alternative

Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

4.1.5 *Section A1.5*

Potential

Potential Alignment A1.5 extends inland in a south westerly direction. In this section the alignment crosses the River Helmsdale and follows an inland route away from the town of Brora. The length of Potential Alignment A1.5 is approximately 17.5 km.

Alternative

Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

SECTION B: BRORA TO LOCH BUIDHE

4.1.6 ***Section B1.1***

Potential

The Potential Alignment continues south west, traversing Loch Brora, 6 km inland from Brora. The length of Potential Alignment B1.1 is approximately 13 km.

Alternative

Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

4.1.7 ***Section B1.2***

Potential

Potential Alignment B1.2 travels north west of the Dornoch Firth and Loch Fleet, passing over Strath Fleet, the A839 and the River Fleet. The Alignment then passes through Strath Carnaig and Strath Fleet Moors before connecting into the proposed Carnaig Substation. The length of Potential Alignment B1.2 is approximately 16.5 km.

Alternative

Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

4.2 Southern Section

SECTION C: LOCH BUIDHE TO DOUNIE

4.2.1 ***Section C1.1***

Potential

Potential Alignment C1.1 extends west from the proposed Carnaig Substation where it traverses north of Loch Leisgein before crossing the Kyle of Sutherland at Invershin. The length of Potential Alignment C1.1 is approximately 7.8 km.

Alternative

Alternative Alignment C1.1 extends west from the proposed Carnaig Substation where it traverses south of Loch Leisgein before crossing the Kyle of Sutherland at Invershin. The length of Alternative Alignment C1.1 is approximately 7.5 km.

4.2.2 ***Section C1.2***

Potential

Potential Alignment C1.2 continues from north-west of Carbisdale Castle in a south westerly direction for 2.5 km, before straightening until it reaches the River Carron. The length of Potential Alignment C1.2 is approximately 4 km.

Alternative

Alternative Alignment C1.2 continues from further west of Potential Alignment C1.2 for 1 km before turning south east for 2.5 km, then south west for a further 1 km before reaching the River Carron. The length of Alternative Alignment C1.2 is approximately 4.7 km.

SECTION D: DOUNIE TO NEAR STRATHPEFFER

4.2.3 ***Section D1.1***

Potential

Potential Alignment D1.1 extends from the River Carron in a southerly direction for approximately 4.8 km. The alignment continues south east for a further 3 km before turning south west for another 8 km. The final stretch of the alignment in this section travels south east, passing adjacent to Loch Morie. The length of Potential Alignment D1.1 is approximately 21 km.

Alternative

Alternative Alignment D1.1 extends from the River Carron in a southerly direction for approximately 4.8 km. The alignment continues south east for a further 3 km before turning south west for another 8 km. The final stretch of the alignment in this section travels south east, slightly further from Loch Morie in comparison to Potential Alignment D1.1. The length of Alternative Alignment D1.1 is approximately 20.8 km.

4.2.4 ***Section D1.2***

Potential

Potential Alignment D1.2 extends from south of Boath in a south westerly direction for approximately 16 km crossing the River Glass and runs further inland and north-west from the Heights of Brae than Alternative Alignment D1.2. This option was suggested in community feedback during public information events in March 2024 as an opportunity to minimise impact on cultural heritage assets in this area. Following investigation by the project Design Development team, this option is suggested for consultation at this time.

Alternative

Alternative Alignment D1.2 extends from south of Boath in a south westerly direction for approximately 16 km crossing the River Glass and runs adjacent to the north west of the Heights of Brae.

SECTION E: NEAR STRATHPEFFER TO BEAULY

4.2.5 *Section E1.1*

Potential 1

E1.1 Potential Alignment 1 extends from north of Strathpeffer, in a south-westerly direction, and then maintains a south-easterly route past Coul House before crossing the River Conon and passing in a southern direction through Fairburn GDL east of Fairburn Tower and crossing the River Orrin. The length of E1.1 Potential 1 Alignment is 11.3 km.

Potential 2

E1.1 Potential Alignment 2 extends from north of Strathpeffer, in a south-westerly direction, and then maintains a south-easterly route past Coul House from where it turns south-westerly before crossing the River Conon. E1.1

Potential Alignment 2 then continues south and south east circumventing Fairburn House and passing through the west of GDL . The length of E1.1 Potential Alignment 2 is approximately 14 km.

Alternative 1

E1.1 Alternative Alignment 1 extends from north of Strathpeffer in a south-westerly direction, passing Loch Garve and en route to the River Conon to the east of Little Scatwell. E1.1 Alternative Alignment 1 then turns south east where it passes south of Loch Achonachie before following the same alignment as E1.1 Potential 2 at Muirton Wood, to the west of Fairburn House, passing through the western edge of the GDL, . The length of E1.1 Alternative Alignment 1 is approximately 19.2 km.

Alternative 2

E1.1 Alternative Alignment 2 extends from north of Strathpeffer in a south-westerly direction, passing Loch Garve and Tarvie en route to the River Conon to the east of Little Scatwell. E1.1 Alternative Alignment 2 then turns south east, passing further south of Loch Achonachie than E1.1 Alternative 1, towards Fairburn Wind Farm and avoiding Fairburn GDL,. The length of E1.1 Alternative Alignment 2 is approximately 19.3 km.

4.2.6 *Section E1.2*

Potential

E1.2 Potential Alignment extends south east from south of the River Orrin for approximately 2 km before turning south west travelling between Loch nan Eun and Loch Nam Bonnach. The length of E1.2 Potential Alignment is approximately 9.2 km.

Alternative

E1.2 Potential Alignment extends south east from south of the River Orrin for approximately 2 km before turning south west travelling between Loch nan Eun and Loch Nam Bonnach. The length of E1.2 Alternative Alignment is approximately 8.5 km.

4.2.7 *Section E1.3*

Potential

E1.3 Potential Alignment extends in an easterly direction from a point to the south-east of Ardochy and crosses the River Beauly to the north of the Crask of Aigas. The potential alignment passes through Ruttle Wood to the north of

the Scheduled Monument Dun Fíonn before connecting into the proposed Fanellan substation. The length of E1.3 Potential Alignment is approximately 2 km.

Alternative

E1.3 Alternative Alignment extends in a south-easterly direction from a point to the south-east of Ardochy before turning east and crosses the River Beauly to the north of the Crask of Aigas. The potential alignment passes through Ruttle Wood adjacent to the Scheduled Monument Dun Fionn before connecting into the proposed Fanellan substation. The length of E1.3 Alternative Alignment is approximately 2 km.

5. COMPARATIVE ANALYSIS OF ALIGNMENT OPTIONS

5.1 Introduction

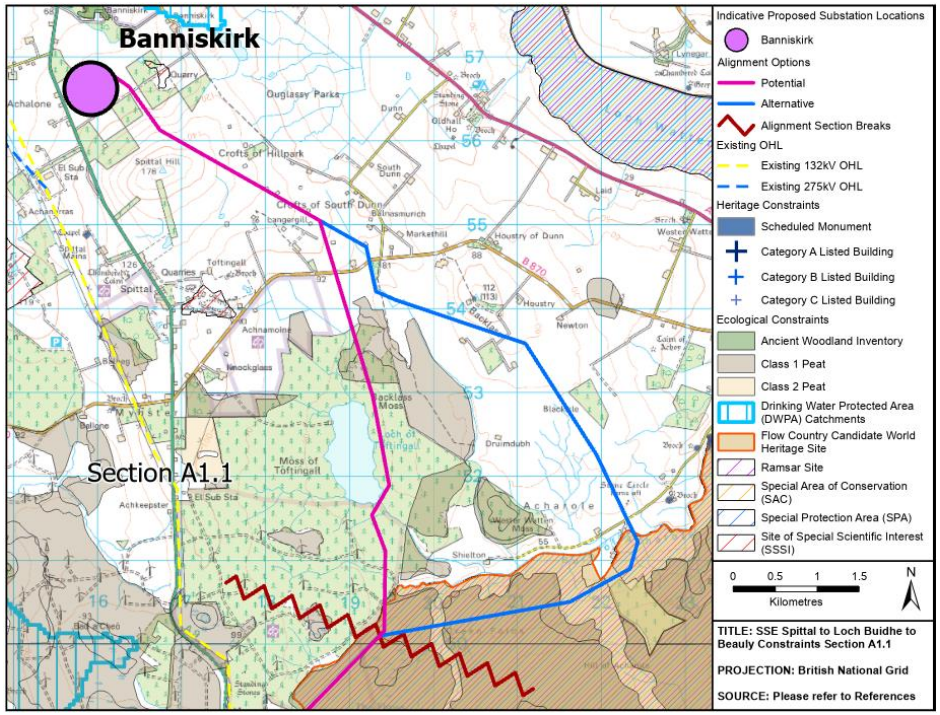
The following is a summary of the key considerations of each alignment per section from an environmental, engineering and economic perspective, and provides a comparative appraisal of each section in order to select an overall Potential Alignment.

Appendix A: Alignment Appraisal Detail provides more detail on individual alignment option considerations for each topic as listed in Section 3.2.4 above.

5.2 Northern Section

5.2.1 Section A1.1

Table 5.1: Section A1.1 Potential Alignment v Alternative Alignment

Potential Alignment		Alternative Alignment
Potential Alignment <u>Environment</u> Passes through the Caithness and Sutherland Peatlands Special Protection Area/ Ramsar Site/ Special Area of Conservation and Shielton Peatlands Site of Special Scientific Interest. Crosses area of Class 1 Peatland. Passes through the proposed Flow Country World Heritage site. <u>Engineering</u> No major infrastructure crossings. Generally flat ground with limited slopes, with areas of peatland found of varying depths. No residential properties within 170 m of the alignment, with the OHL traversing between an existing a proposed windfarm.		**Alternative Alignment** <u>Environment</u> Passes through the Caithness and Sutherland Peatlands Special Protection Area/ Ramsar Site/ Special Area of Conservation and Shielton Peatlands Site of Special Scientific Interest. Crosses area of Class 1 Peatland. Passes through the proposed Flow Country World Heritage Site. <u>Engineering</u> No major infrastructure crossings. Generally flat ground with limited slopes, with areas of peatland found of varying depths. Passes through a longer section of Class 1 peatland and the SAC than the potential alignment option. No residential properties within 170 m of the alignment, also outside of a proposed windfarm site.

Environment

Potential Alignment A1.1 is least environmentally constrained.

Alternative Alignment A1.1 passes through a greater extent of designated sites (Caithness and Sutherland Peatlands SPA/SAC/Ramsar and Shielton Peatlands SSSI). Passing through these sites will result in direct impacts on habitat within the site and potentially a greater risk to qualifying ornithological interests. The Alternative Alignment also passes through a larger extent of Class 1 peatland, an Annex 1 habitat and a greater extent of the proposed Flow Country World Heritage Site.

Engineering

Potential Alignment A1.1 is the technically least constrained option from an engineering perspective as it navigates through the lesser areas of peat and is shorter in length than the alternative, reducing longer term maintenance requirements.

Economic

All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment A1.1 has been selected as on balance it is the least constrained option from both an environmental and engineering. Both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.2 Section A1.2

Table 5.2: Section A1.2 Potential Alignment

Potential Alignment

Environmental

Passes through the Caithness and Sutherland Peatlands Special Protection Area, Ramsar and Special Area of Conservation, Shielton Peatlands Site of Special Scientific Interest.

Passes through the proposed Flow Country World Heritage Site.

Crosses areas of Class 1 and 2 Peatland.

Potential to affect setting of scheduled monuments, see Appendix A for details.

Causeymire - Knockfin Flows Wild Land Area and The Flow Country and Berriedale Coast SLA lie directly to the east.

Runs parallel to the existing overhead line and visible to road users on the A9.

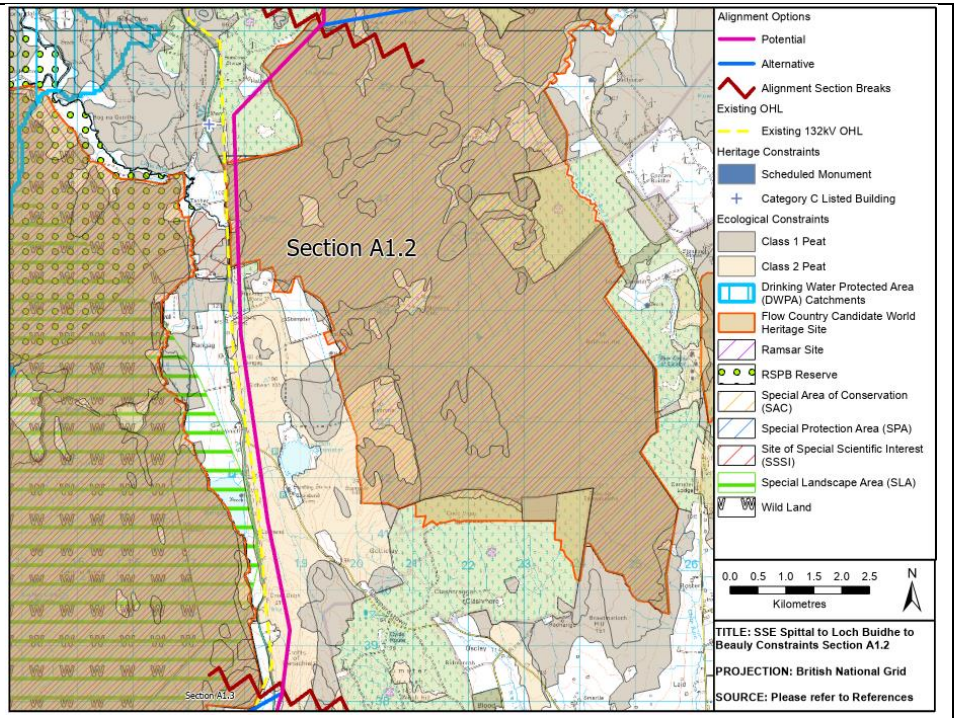
Engineering

No major infrastructure crossings the alignment runs parallel for existing 132 kV transmission line.

Most of the alignment is across generally flat ground with slope angles varying from 1° - 5°.

There is an existing network of tracks and roads within 1 km of all alignment option.

No residential property within 170 m of the alignment.



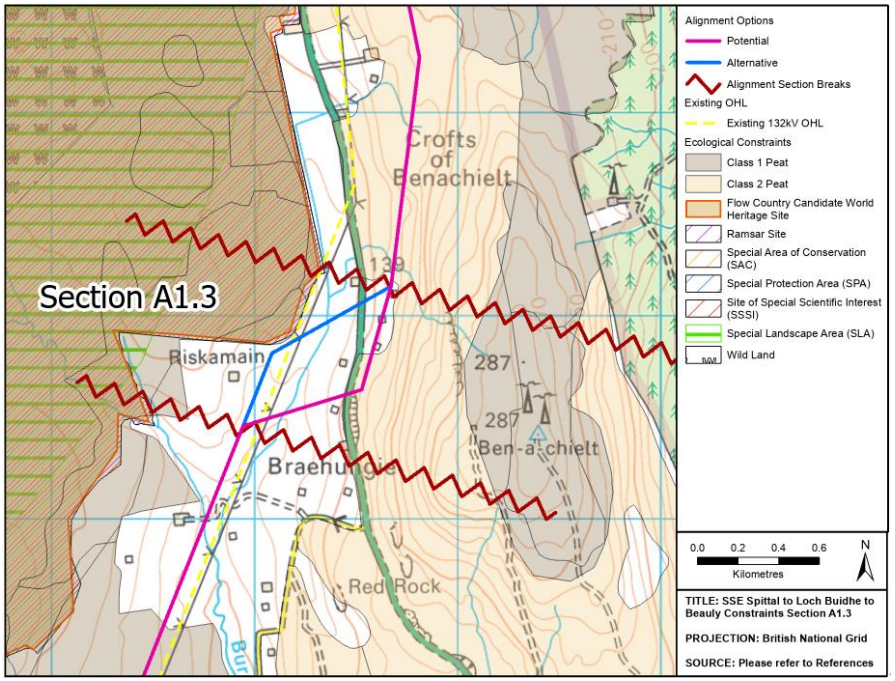
Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

Potential Alignment A1.2 is the only option identified in this section.

This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.3 Section A1.3

Table 5.3: Section A1.3 Potential Alignment v Alternative Alignment

Potential Alignment		Alternative Alignment
Potential Alignment Environment Avoids direct interaction with designated sites. Adjacent to Caithness and Sutherland Peatlands Special Protection Area / Ramsar site / Special Area of Conservation, Coire na Beinne Mires Site of Special Scientific Interest. Adjacent to Causeymire - Knockfin Flows Wild Land Area and The Flow Country and Berriedale Coast SLA. Engineering Crosses existing 132 kV overhead line and A9. 5% of the alignment option is located within an area identified on SEPA flood maps. No properties are withing 170 m of the alignment.		**Alternative Alignment** Environment Passes through proposed Flow Country World Heritage Site. Directly adjacent to Caithness and Sutherland Peatlands Special Protection Area / Ramsar site / Special Area of Conservation, Coire na Beinne Mires Site of Special Scientific Interest. Adjacent to Causeymire - Knockfin Flows Wild Land Area and The Flow Country and Berriedale Coast SLA. Engineering Crosses existing 132 kV overhead line and A9. No properties are withing 170 m of the alignment.

Environment

Potential Alignment A1.3 is least environmentally constrained.

Despite crossing a small area of class 2 peatland, Potential Alignment A1.3 is favoured as this avoids any direct interaction with the proposed Flow Country World Heritage Site.

Engineering

Both the potential and alternative alignment options have similar constraints technically within this section. No option is favoured from a technical position.

Economic

All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment A1.3 has been selected as on balance it is the least constrained option from both an environmental and engineering. Both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.4 Section A1.4

Table 5.4: Section A1.4 Potential Alignment

Potential Alignment

Environment

Passes through small areas of Grade 1a and 2a Ancient Woodland.

Passes over Dunbeath Water Site of Special Scientific Interest (SSSI), Berriedale Water SSSI, Berriedale and Langwell Waters Special Area of Conservation and Langwell Water SSSI.

Passes through areas of Class 1 and 2 Peatland.

Oversails scheduled monument (Balcraggie Lodge, settlement 700m N of) (SM5230).

Potential to affect setting of scheduled monuments, see Appendix A for details.

Passes through The Flow Country and Berriedale Coast Special Landscape Area and is adjacent to Causeymire - Knockfin Flows Wild Land Area.

Engineering

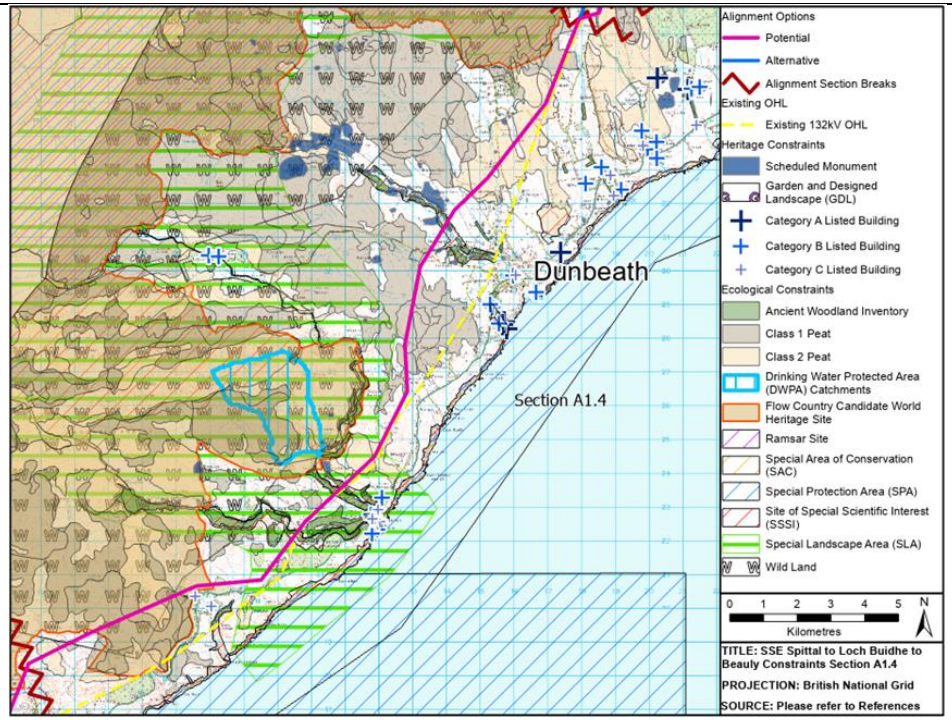
No major infrastructure crossing, the alignment Runs parallel to the 132kV line in many parts of this section.

Traverses through elevations generally below 200mAOD in the northern part of this section which are not considered challenging. However, there are 23 towers at elevations >200mAOD, which will pose construction challenges.

Topography is variable across the alignment with slope angles varying from 0° - 22°. The flatter, less challenging ground tends to be in the north of this section.

Majority of the alignment in this section over 1 km from existing (public) road network.

No residential property within 170 m of the alignment



Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

Potential Alignment A1.4 is the only option identified in this section.

This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.5 Section A1.5

Table 5.5: Section A1.5 Potential Alignment

Potential Alignment

Environment

Passes through Class 1 and 2 Peatland.

Passes through Loch Fleet, Loch Brora and Glen Loth Special Landscape Area.

Passes over the River Helmsdale and through Glen Loth.

Potential to affect setting of scheduled monuments, see Appendix A for details.

Engineering

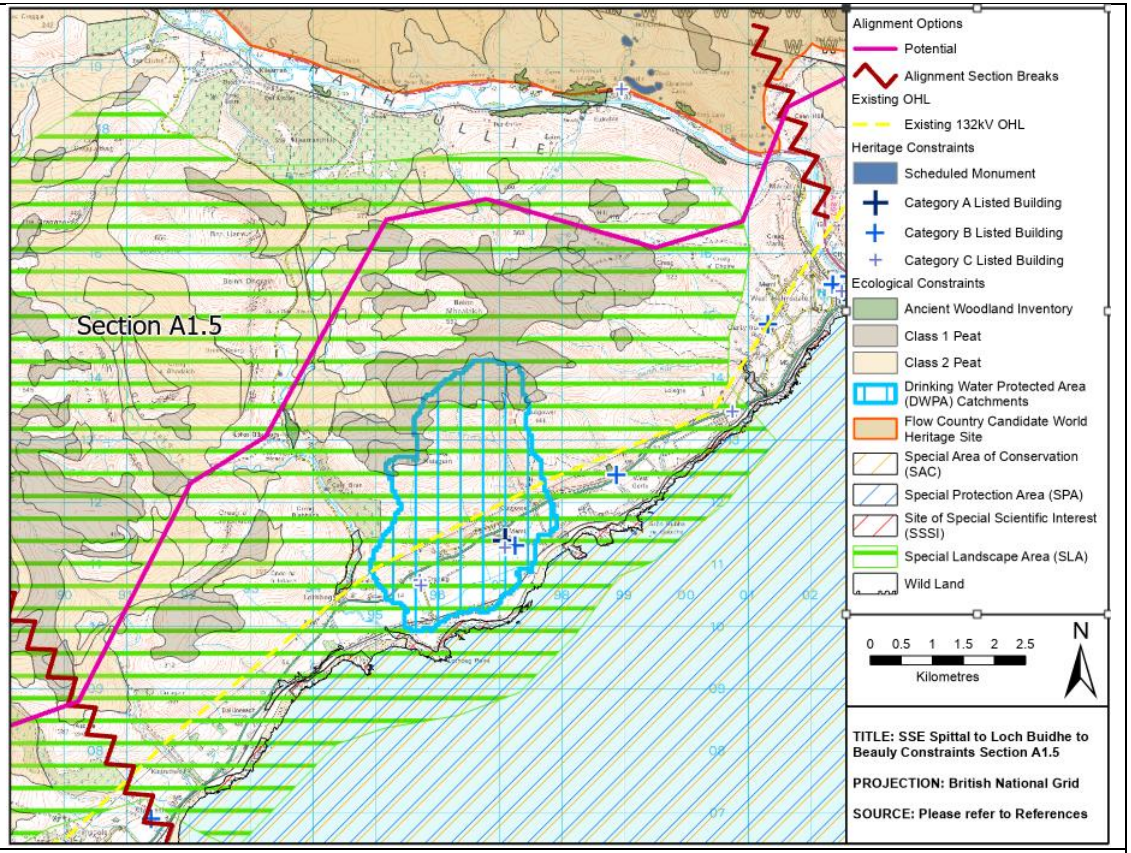
One major infrastructure crossing (railway line).

Traverses through elevations generally >200mAOD which are considered challenging for construction. Highest recorded elevation is 375mAOD.

Topography is variable across the alignment with slope angles varying from 2° - 22°. Most towers are on ground sloping 6° or more. Only 1 tower is on ground sloping 20°.

Majority of the alignment in this section over 1 km from existing (public) road network.

No residential property within 170 m or 200 m of the alignment.



Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

Potential Alignment A1.5 is the only option identified in this section.

This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.6 Section B1.1

Table 5.6: Section B1.1 Potential Alignment

Potential Alignment

Environment

Is directly adjacent to Grade 1a Ancient Woodland and Carrol Rock Site of Special Scientific Interest.

Passes through areas of Class 1 and 2 Peatland.

Passes through Loch Fleet, Loch Brora and Glen Loth Special Landscape Area.

Passes over Loch Brora.

Inland from Brora and Dunrobin Castle Garden and Designed Landscape.

Potential to affect setting of scheduled monuments, see Appendix A for details.

Engineering

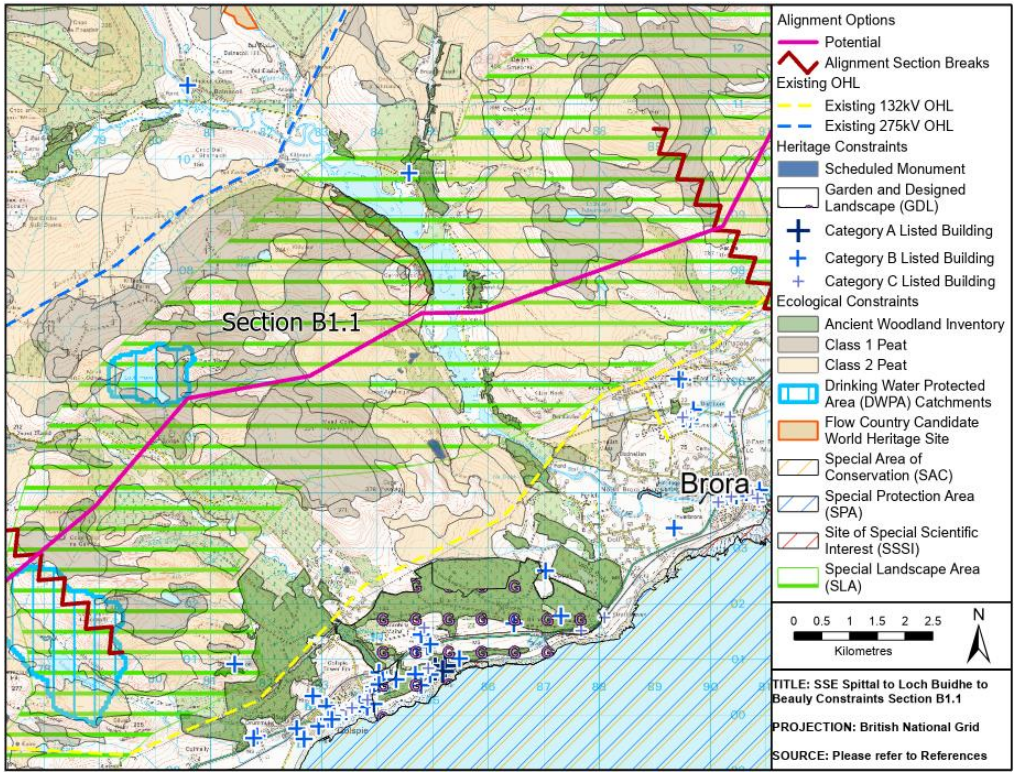
One major crossing (Loch Brora).

Traverses through elevations generally >200mAOD which are considered challenging for construction. Highest recorded elevation is 370 m AOD.

Topography varies across the alignment with several towers in flatter areas of slope angles ranging from 1° - 5° and all other towers on more challenging slopes of between 6° - 14°. 1 tower is on a 20° slope.

Majority of the alignment in this section over 1 km from existing (public) road network.

One residential property (north of Loch Brora crossing) less than 170 m (approx. 140 m) from the alignment.



Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

Potential Alignment B1.1 is the only option identified in this section.

This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.2.7 Section B1.2

Table 5.7: Section B1.2 Potential Alignment

Potential Alignment

Environment

Passes through Grade 1a Ancient Woodland, Class 1 and 2 Peatland, Strathfleet Site of Special Scientific Interest (SSSI), Strath Carnaig and Strath Fleet Moors SSSI and Special Protection Area.

Adjacent to Loch Fleet, Loch Brora and Glen Loth Special Landscape Area.

Potential to affect setting of scheduled monuments, see Appendix A for details.

Engineering

Three major infrastructure crossings (A839, railway and 132 kV).

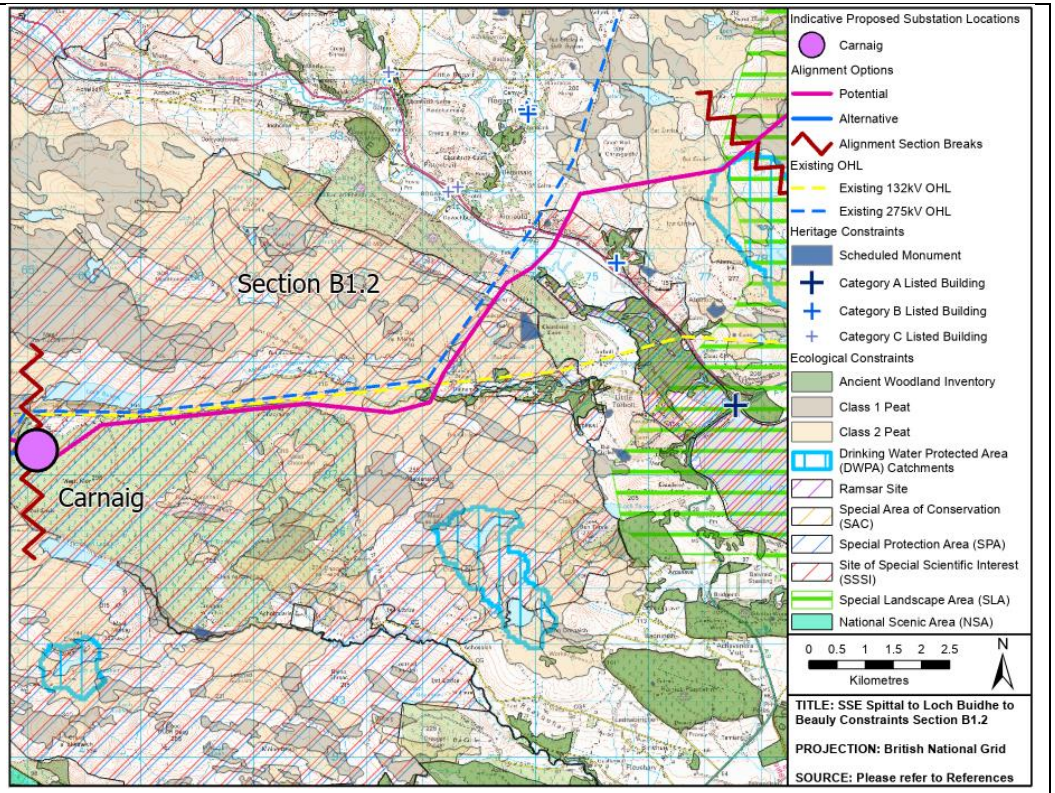
Parts of the alignment in this section runs parallel to 275 kV and part of alignment in this section runs parallel to 132 kV.

Traverses through varying elevations ranging from 10mAOD to 250mAOD. 13 towers are sited at challenging elevations >200mAOD.

Topography varies across the alignment with several towers in flatter areas of slope angles ranging from 0° - 5° and all other towers on more challenging slopes of between 6° - 19°. 1 tower is on a 24° slope.

Majority of the alignment in this section over 1km from existing (public) road network.

No residential property within 170 m or 200 m of the alignment



Owing to a combination of environmental and technical constraints, there is no alternative alignment option identified in this section.

Potential Alignment B1.2 is the only option identified in this section.

This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3 Southern Section

5.3.1 Section C1.1

Table 5.8: Section C1.1 Potential Alignment v Alternative Alignment

Potential Alignment

Environment

Passes through Grade 2b Ancient Woodland, Class 1 and 2 Peatland.

Passes through Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes SSSI.

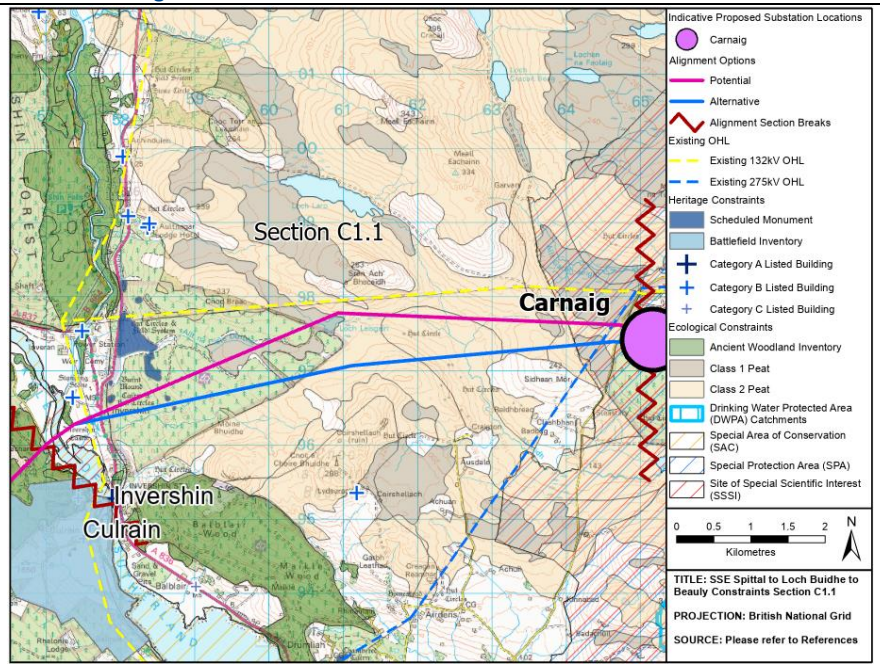
Passes adjacent to Carbisdale Battlefield and may affect setting. Potential to affect setting of scheduled monuments, see Appendix A for details.

Engineering

Crosses Kyle of Sutherland, existing 275 kV and 132 kV overhead line infrastructure, A836 road crossing, and a railway crossing.

Routes the line out of Carnaig (Loch Buidhe) substation down a valley leading to more gradual ground slopes creating easier installation of towers and accesses.

Passes through peatland.



Alternative Alignment

Environment

Passes through Grade 2b Ancient Woodland and Class 2 Peatland.

Potential to impact Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes SSSI.

Passes adjacent to Carbisdale Battlefield and may affect setting. Passes through SM5470 (Invershin Farm, settlement and burnt mount 1200m E of).

Potential to affect setting of scheduled monuments: See Appendix A for details.

Engineering

Crosses Kyle of Sutherland, existing 275 kV and 132 kV overhead line infrastructure, A836 road crossing, and a railway crossing

Routes over undulating ground out of Carnaig (Loch Buidhe) substation increasing the complexity of earthworks required to install the accesses and tower.

Routes through the proposed Balblair Wind Farm.

Passes through peatland.

Environment

Overall, from an environmental perspective, Potential Alignment C1.1 is least constrained.

Alternative Alignment C1.1 passes through SM5470 (Invershin Farm, settlement and burnt mound 1200m E of) whereas the Potential Alignment C1.1 passes to the north of this scheduled monument. Potential Alignment C1.1 passes through area of both Class 1 and 2 Peatland whereas Alternative Alignment C1.1 only passes through areas of Class 2 peatland. Both alignment options pass through areas of commercial forestry however Alternative Alignment C1.1 passes through a greater area of commercial forestry.

Engineering

Overall, from an engineering perspective, the Potential Alignment C1.1 is least constrained.

Both alignment options are technically feasible. Both alignment options cross the existing 275kV and 132kV overhead line, the forestry area, railway and A road.

From a construction and maintenance perspective, the Potential Alignment C1.1 avoids the proposed Balblair Wind farm development which improves access and operability of the new 400kV overhead line. Also in the forestry area, the Potential Alignment C1.1 routes through a break in the trees which decreases felling and future maintenance felling requirements to maintain clearance distances to the conductors more easily. From a terrain perspective, Potential Alignment C1.1 is marginally beneficial as the alignments routes along an existing valley where the alternate would climb in elevation.

Both options pass through areas of peat which may increase complexity of earthworks require to install towers and accesses.

From a flooding perspective both alignment options cross the river and coastal flood plain at the Kyle of Sutherland and again this is not a feature for differentiating between the options.

Economic

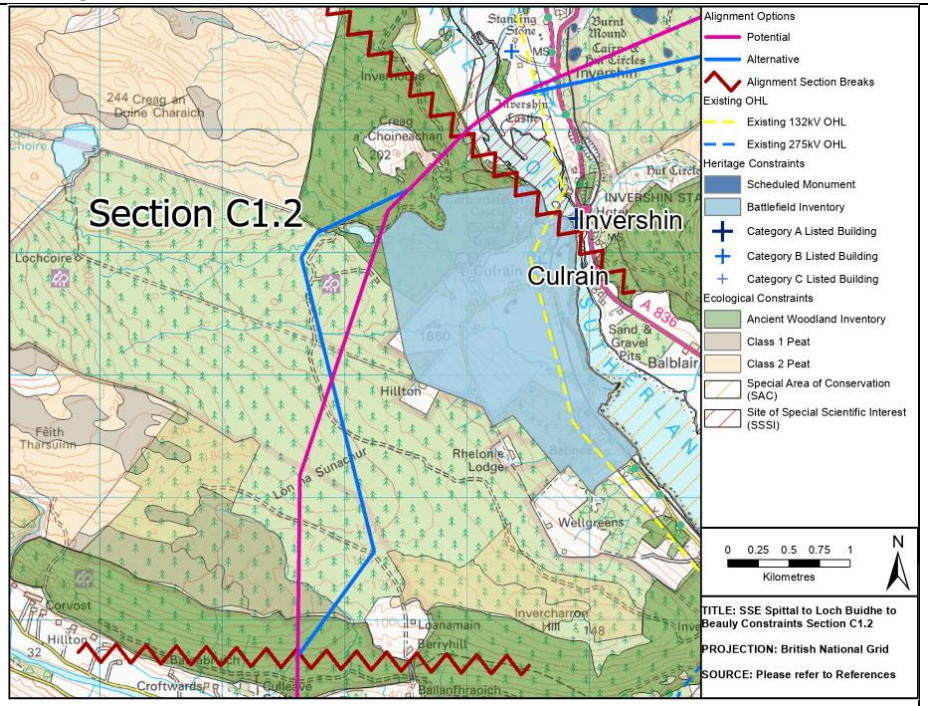
All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment C1.1 has been selected as on balance it is the least constrained option from an environmental perspective and has the least engineering constraints. Both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.2 Section C1.2

Table 5.9: Section C1.2 Potential Alignment v Alternative Alignment

Potential Alignment		Alternative Alignment
Potential Alignment <u>Environment</u> Passes through Grade 2b Ancient Woodland. Crosses a small area of Class 1 Peatland. Adjacent to River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes Site of Special Scientific Interest (SSSI). Passes adjacent to Carbisdale Battlefield and may affect setting. Potential to be visible from residential property at Culrain. <u>Engineering</u> Crosses a number or forestry access tracks. The Potential Alignment eliminates a section of the steep climb from Invershin up onto the Carbisdale hillsides.		**Alternative Alignment** <u>Environment</u> Passes through Grade 2b Ancient Woodland. Crosses a small area of Class 1 Peatland. Adjacent to River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes Site of Special Scientific Interest (SSSI). Passes further west of Carbisdale Battlefield reducing potential for effects on setting. Potential to be visible from residential property at Culrain. <u>Engineering</u> Crosses a number or forestry access tracks. Requires a steep climb from Invershin up onto the Carbisdale hillsides leading to large cross slopes. Oversails a holiday property.

Environment

Overall the Alternative Alignment C1.2 is marginally less environmentally constrained.

Alternative Alignment C1.2 passes further west from Carbisdale Battlefield which reduces the potential to impact the setting of this registered battlefield. Both alignment options pass through areas of commercial forestry and an area of Class 1 peatland however C1.2 Alternative Alignment passes through a smaller extent of both.

Engineering

Overall, from an engineering perspective, the Potential Alignment C1.2 is least constrained.

The Potential Alignment C1.2 has perceived benefits for construction with the route alignment cutting out part of the steep climb of the alignment from Invershin into the Carbisdale hills. However, complex earthworks may still be required to install towers. Existing Forestry Land Scotland access track crossings are better for the Potential Alignment C1.2 with the alignment crossing at near perpendicular to the tracks ensuring clearance to forestry logging vehicles.

The Alternative Alignment C1.2 oversails a holiday property and in order to confirm feasibility of the Alternative Alignment further investigation into the potential converted property is required.

Whilst the Potential Alignment C1.2 does cross the ancient battlefield no tower would need to be situated within the boundary of the battlefield, with only the conductors oversailing (works would still be required to clear forestry to ensure clearances.)

Economic

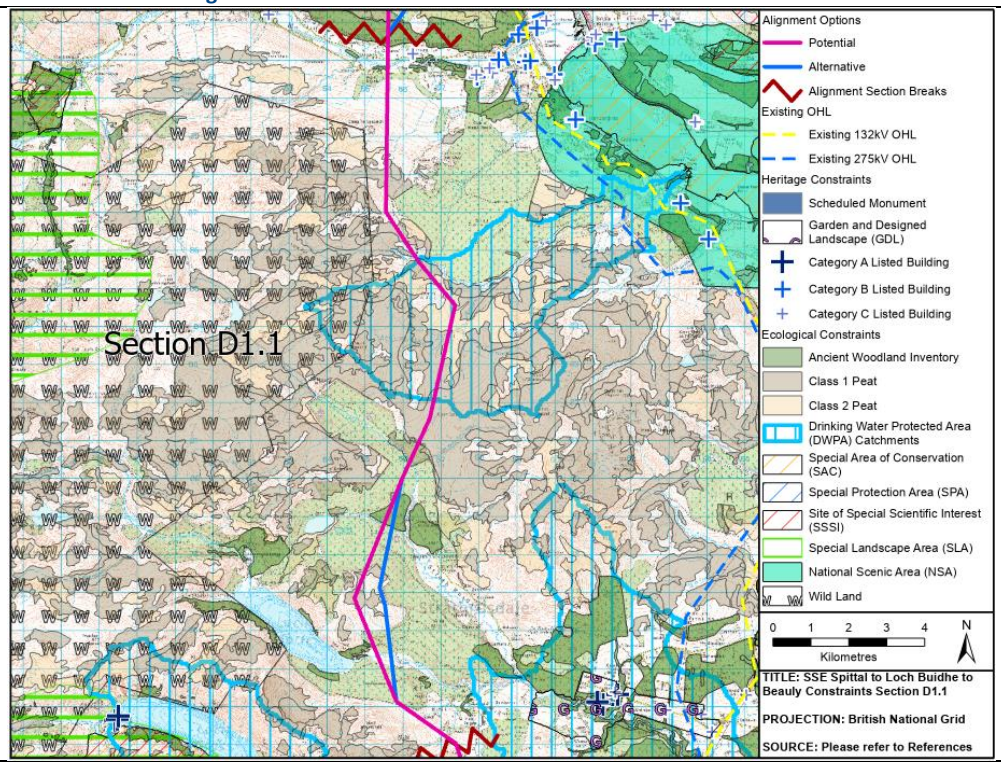
All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment C1.2 has been selected as on balance it is the least constrained option from an engineering perspective. The Alternative Alignment C1.2 is marginally less environmentally constrained and both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.3 Section D1.1

Table 5.10: Section D1.1 Potential Alignment v Alternative Alignment

Potential Alignment		**Alternative Alignment**
<u>Environment</u> Passes through Grade 2a and 2b Ancient Woodland, Class 1 and 2 Peatland and crosses a Drinking Water Protected Area. Is adjacent to scheduled monuments, see Appendix A for details. Passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area. Potential to be visible from residential property in and around Dounie and Strathrusdale. <u>Engineering</u> Passes through areas of peat.		<u>Environment</u> Passes through Grade 2a and 2b Ancient Woodland, Class 1 and 2 Peatland, and crosses a Drinking Water Protected Area. Is adjacent to scheduled monuments, see Appendix A for details. Passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area. Potential to be visible from residential property in and around Dounie and Strathrusdale. <u>Engineering</u> Passes through areas of peat. Routes on a hillside with possibly significant slopes opposite Braentra.

<u>Environment</u>

Potential Alignment D1.1 is considered least environmentally constrained as it is likely to be slightly less visible from residential property in Strathrusdale as it would pass west of the hill. Potential Alignment D1.1 and Alternative Alignment D1.1 both pass through Class 1 and 2 peatland however Potential Alignment D1.1 would pass through a slightly larger extent of Class 1 peatland. It is assumed that the area of ancient woodland can be avoided through micrositing.

<u>Engineering</u>

There is no engineering preference for either the Potential D1.1 or Alternative D1.1 alignment. Both options follow a same alignment until Strathrusdale where the Potential Alignment D1.1 routes through an area of peat near Braeantra compared to the D1.1 Alternative Alignment that routes on a hillside with possibly significant cross slopes opposite Braeantra.

Potential Alignment

Environment

Passes through Grade 2a and 2b Ancient Woodland, Class 1 and 2 Peatland and crosses a Drinking Water Protected Area.

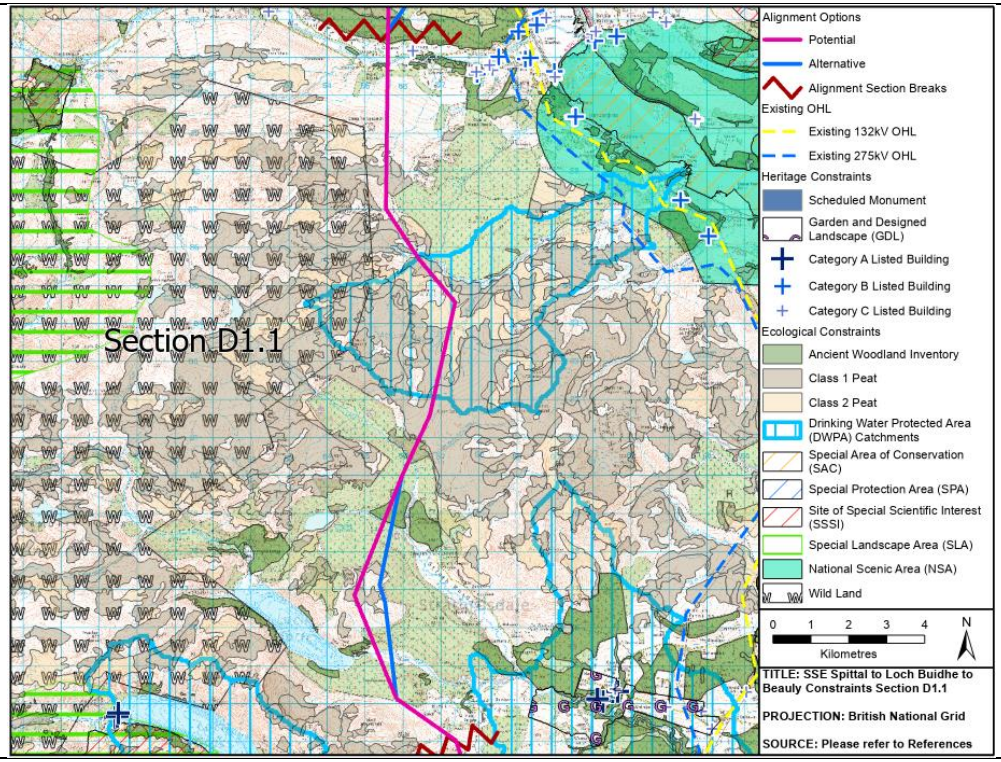
Is adjacent to scheduled monuments, see Appendix A for details.

Passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area.

Potential to be visible from residential property in and around Dounie and Strathrusdale.

Engineering

Passes through areas of peat.



Alternative Alignment

Environment

Passes through Grade 2a and 2b Ancient Woodland, Class 1 and 2 Peatland, and crosses a Drinking Water Protected Area.

Is adjacent to scheduled monuments, see Appendix A for details.

Passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area.

Potential to be visible from residential property in and around Dounie and Strathrusdale.

Engineering

Passes through areas of peat.

Routes on a hillside with possibly significant slopes opposite Braentra.

Both of the options have increased complexity of access and foundation installation as well as increasing difficulty for future operational access.

Economic

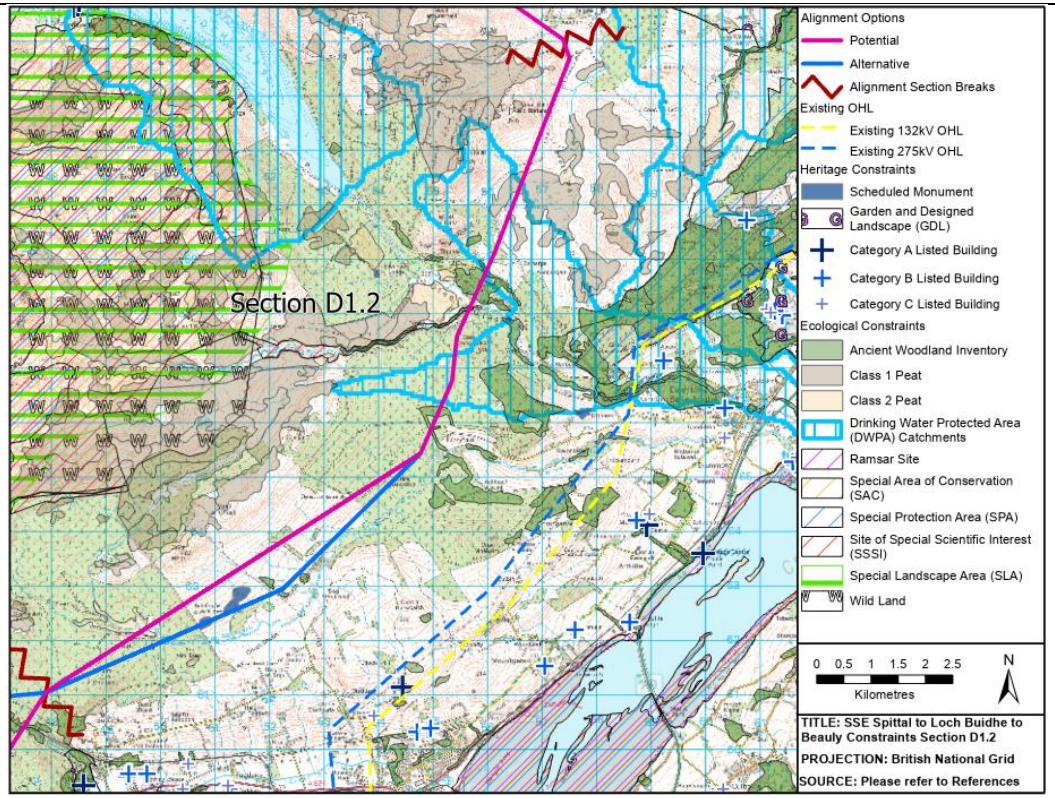
All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary

Potential Alignment D1.1 has been selected as on balance it is the least constrained option from an environmental perspective. Both options were considered equally acceptable from a cost and engineering perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.4 Section D1.2

Table 5.11: Section D1.2 Potential Alignment v Alternative Alignment

Potential Alignment		Alternative Alignment
Potential Alignment Environment Oversails the Allt nan Caorach SSSI. Passes through Grade 2a and 2b Ancient Woodland. Crosses localised areas of Class 1 and 2 peatland. Crosses surface water Drinking Water Protected Area. Potential to affect setting of scheduled monuments, see Appendix A for details. Engineering Lesser construction challenge to navigate through Canmore designations and Scheduled Monuments. Crosses River Glass.		**Alternative Alignment** Environment Oversails the Allt nan Caorach SSSI. Passes through Grade 2a and 2b Ancient Woodland. Crosses localised areas of Class 1 peatland. Crosses surface water Drinking Water Protected Area Oversails the following scheduled monuments: SM10495 (Strath Sgitheach, settlement NW of Cnoc a'Mhuilinn), SM4728 (Firth View, settlement 1300m NW of) Potential to affect setting of scheduled monuments, see Appendix A for details. Engineering Greater construction challenge to navigate through Canmore designations and Scheduled Monuments. Crosses River Glass.

Environment

Potential Alignment D1.2 is least environmentally constrained.

The Potential Alignment is D1.2 to the north of SM10495 (Strath Sgitheach, settlement NW of Cnoc a'Mhuilinn) and SM4728 (Firth View, settlement 1300m NW of) which would reduce changes to setting compared to the D1.2 Alternative Alignment. The Potential Alignment D1.2 would also reduce the potential to impact the cluster of non-designated assets within the vicinity of the Alternative Alignment D1.2. The Potential Alignment D1.2 avoids an additional area of Grade 2a Ancient Woodland (of semi-natural origin) north of the Heights of Brae however it would pass through an additional area of Class 2 peatland.

Engineering

The Potential Alignment D1.2 is perceived to be the least constrained.

This is largely due to the number of archaeological constraints in the area from the Cairns designations to the scheduled monument located near the Heights of Brae, and areas of non-designated and unrecorded heritage assets. The Potential Alignment D1.2 presents an option which reduces these crossing significantly siting the route to the North-West of the Scheduled Monuments reducing the complexity of the construction.

Economic

All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment D1.2 has been selected as on balance it is the least constrained option from an environmental perspective and has the least engineering constraints. Both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.5 Section E1.1

Table 5.12: Section E1.1 Potential Alignment v Alternative Alignment

Potential Alignment 1

Environment

Passes through Grade 1a/2a/2b Ancient Woodland and Fairburn Garden and Designed Landscape

Potential to affect setting of scheduled monuments, see Appendix A for details.

May impact upon nationally significant Category A listed Fairburn Tower and potential to impact the setting of the Category A listed Coul House.

Crosses the River Conon.

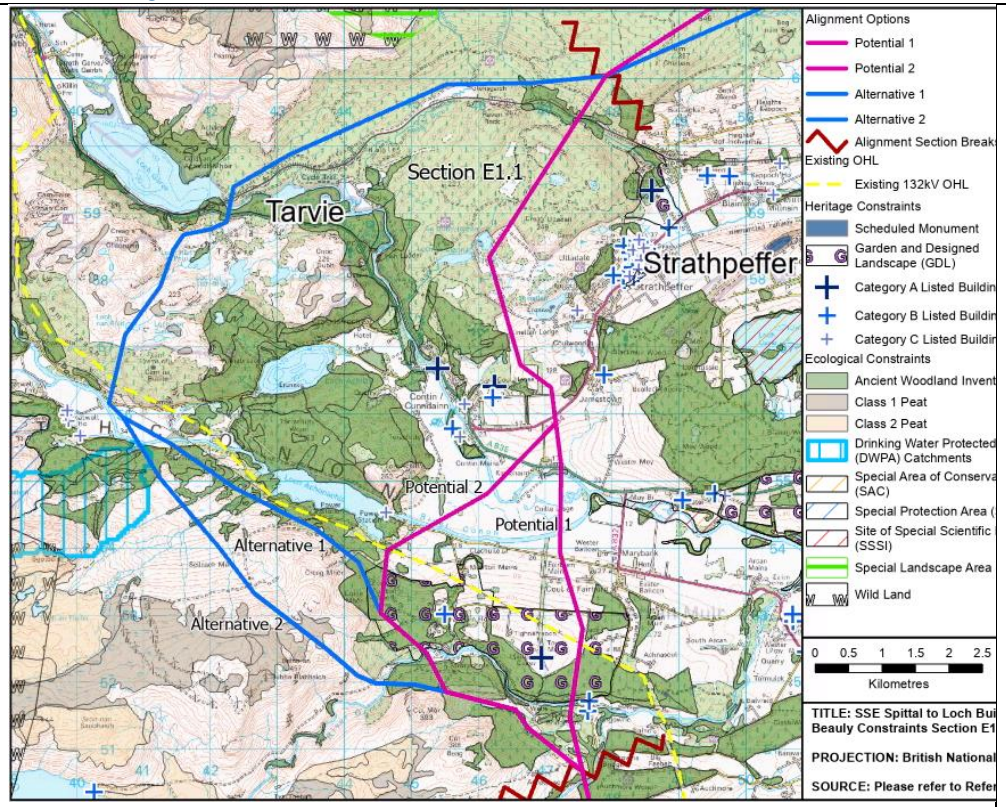
Crosses an area of prime agricultural land.

Engineering

Significant number of crossings including 2 river crossings, a railway crossing and an existing 132 kV overhead line crossing.

Routes through the larger area of flood zone close to River Conon and Black Water.

Potential impact on residential properties.



Alternative Alignment 1

Environment

Passes through Grade 1a/2a2b Ancient Woodland and is adjacent to the western edge of Fairburn Garden and Designed Landscape (GDL) – likely to affect setting of GDL.

Potential to affect setting of scheduled monuments, see Appendix A for details.

May affect views from The Bungalow at Inchroach within Tarvie and Scatwell Cottage within Scatwell.

Potential to affect the recreational amenity of core paths in Tarvie.

Crosses the River Conon.

Engineering

Significant number of crossings including 2 river crossings, a railway crossing and an existing 132 kV overhead line crossing.

Routes through flood zone close to River Conon. Crosses large cross slopes parallel to Loch Achonachie.

Potential impact on residential properties.

Routes through the proposed Tarvie Wind Farm.

Limited existing access tracks.

Potential Alignment 2

Environment

Passes through Grade 1a/2a/2b Ancient Woodland and Fairburn Garden and Designed Landscape (GDL) and likely to affect setting of GDL and Category B listed Fairburn House.

Potential to affect setting of scheduled monuments, see Appendix A for details.

Potential to impact the setting of the Category A listed Coul House.

May affect views from properties including Mid Lodge within Contin and Fairburn Mains Cottages.

Potential to affect recreational amenity of core paths and cycling and walking routes in Contin and Strathpeffer.

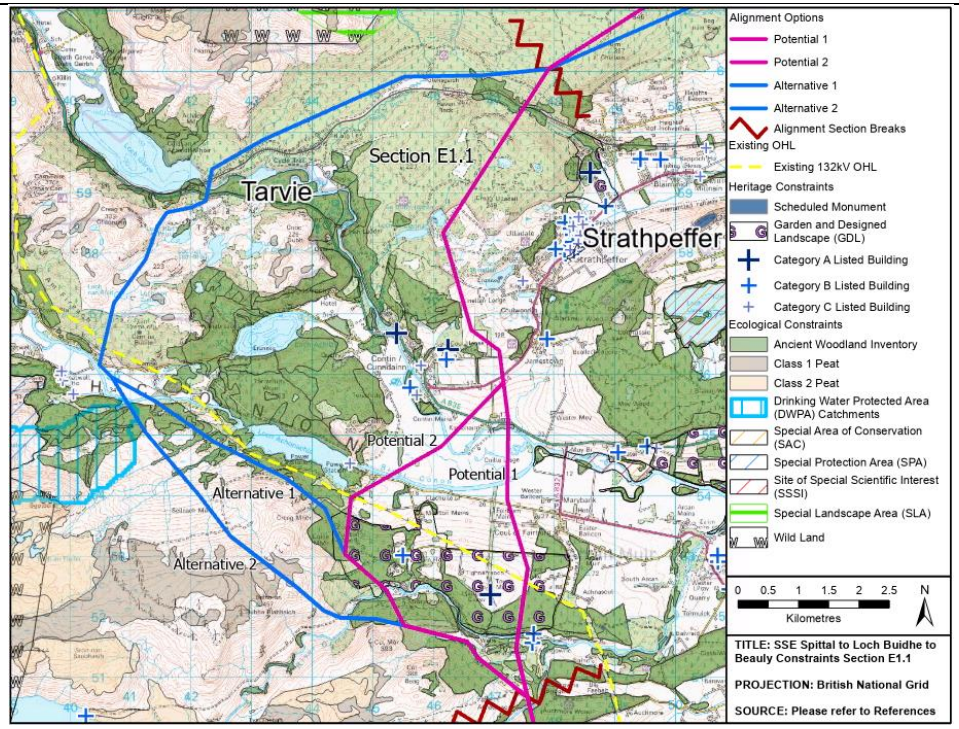
Crosses an area of prime agricultural land

Engineering

Significant number of crossings including 2 river crossings, a railway crossing and an existing 132 kV overhead line crossing.

Routes through the lesser area of flood zone.

Less potential impact on residential properties.



Alternative Alignment 2

Environment

Passes through Grade 1a/2a/2b Ancient Woodland and a Drinking Water Protected Area. Passes south of Fairburn GDL but has potential to affect setting due to higher elevation.

Potential to affect setting of scheduled monuments, see Appendix A for details.

May affect views from The Bungalow at Inchroach within Tarvie and Scatwell Cottage within Scatwell.

Potential to affect the recreational amenity of core paths in Tarvie.

Crosses the River Conon.

Engineering

Significant number of crossings including 2 river crossings, a railway crossing and an existing 132 kV overhead line crossing.

Routes through flood zone.

Crosses large cross slopes.

Potential impact on residential properties.

Routes through the proposed Tarvie Wind Farm.

Limited existing access tracks.

Environment

E1.1 Potential Alignment 1 is least environmentally constrained.

All alignment options pass through areas of ancient woodland with E1.1 Alternative Alignment 1 passing through a greater extent of ancient woodland of semi-natural origin (grades 1a and 2a). E1.1 Alternative Alignment 1 and 2 are likely to result in a greater loss of sensitive habitat due to access requirements and the greater length. E1.1 Alternative Alignments 1 and 2 are likely to present a greater risk to birds due to the increased length and greater potential for collision and barrier effects and closer proximity to the Glen Affric to Strath Conon SPA.

E1.1 Potential Alignment 1, E1.1 Potential Alignment 2 and E1.1 Alternative Alignment 1 pass through the Fairburn Castle GDL. These options are all likely to compromise the designating features of this nationally designated asset through changes to setting. E1.1 Alternative Alignment 2 avoids passing through the GDL directly but would be visible on the hillside to the south. E1.1 Potential Alignment 1 and 2 have the potential to impact the setting of the Category A listed Coul House and E1.1 Potential Alignment 1 will also impact the setting of the Category A listed Fairburn Tower. E1.1 Alternative Alignments 1 and 2 are further removed from the Category A listed Fairburn Tower with larger areas of woodland in the intervening landscape so have a lesser potential for impact on its setting.

E1.1 Potential Alignment 1 passes close to more densely populated areas including the communities of Contin and Strathpeffer and associated recreational areas. E1.1 Alternative Alignments 1 and 2 pass close to the community of Tarvie. There are dispersed properties adjacent to all of the alignment options with potential for visual impact. E1.1 Alternative Alignments 1 and 2 pass in close proximity to a surface water Drinking Water Protected Area (DWPA) with E1.1 Alternative Alignment 2 passing more closely than Alternative 1. Ben Wyvis Special Landscape Area and Wild Land Area is within 1 km of E1.1 Alternative Alignments 1 and 2.

The proposed Fairburn Wind Farm Extension and the proposed Tarvie Wind Farm are located within or adjacent to E1.1 Alternative Alignment 1 and 2 and there is the potential for interaction and cumulative effects. E1.1 Potential Alignments 1 and 2 have the potential to affect prime agricultural land.

Engineering

E1.1 Potential Alignment 2 is viewed to be the least constrained alignment option from an Engineering perspective.

The Potential Alignment 2 reduces the routeing through the flood zones of the river Conon and Black Water.

All alignments have properties in proximity to them requiring site specific noise studies however Alignment Potential 2 has the lowest number of properties requiring noise assessments.

By routeing the E1.1 Potential Alignment 1 and 2 largely through agricultural land the ground risk is significantly lower when compared against either of the Alternative Alignment options providing for a less complex construction for both accesses and towers.

E1.1 Potential Alignments 1 and 2 have good public roads for accesses with gentle gradients of slope compared to Alternative Alignment 1 and 2 where the main challenges are third party developments, terrain and access. Alternative Alignments 1 and 2 run through the proposed Tarvie Wind Farm and site the route on slopes with large cross slopes observed where Alternative Alignment 1 runs parallel to Loch Achonachie which may lead to difficulty in construction and accesses. Alternative Alignment 1 and 2 route in remote regions and would require significant enabling works in comparison to the Potential alignments to provide access to the routes.

Economic

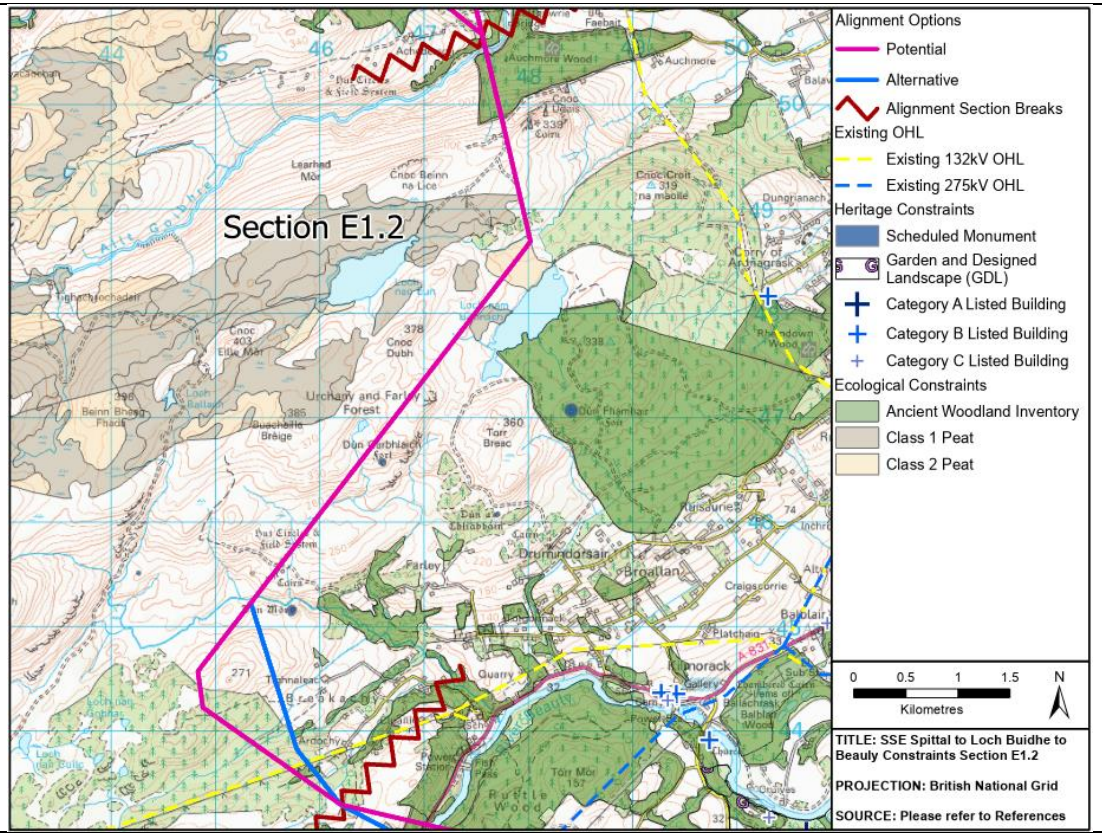
All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

E1.1 Potential Alignments 1 and 2 have been selected as on balance these are considered to be the least constrained option from an environmental perspective, and also have the least engineering constraints compared to Alternative Alignments 1 and 2. All options were considered acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.6 Section E1.2

Table 5.13: Section E1.2 Potential Alignment v Alternative Alignment

Potential Alignment		Alternative Alignment
Potential Alignment Environment Passes through Grade 2a/2b Ancient Woodland and areas of Class 1 and 2 Peatland. Potential to affect setting of scheduled monuments, see Appendix A for details. May affect views from properties and core paths in Beauly and along sections of the A831. Engineering Crosses existing Beauly- Deany 132 kV Overhead line. Navigates through topographically challenging terrain.		**Alternative Alignment** Environment Passes through Grade 2a/2b Ancient Woodland and areas of Class 1 and 2 Peatland. Potential to affect setting of scheduled monuments, see Appendix A for details. May affect views from properties and core paths in Beauly and along sections of the A831. Engineering Crosses existing Beauly- Deany 132 kV Overhead line. Navigates through topographically challenging terrain.

Environment

Potential Alignment E1.2 is least environmentally constrained.

Alternative Alignment E1.2 is closer to SM5212 (Dun Fhamhair, fort) and the cluster of non-designated assets to the west of Farley. The Alternative Alignment E1.2 would be further east and have a greater potential to compromise the view or visual amenity from properties in Torgormack and Farley. The Alternative Alignment E1.2 also passes through an additional area of Grade 2a Ancient Woodland (of semi-natural origin) southwest of Farley.

Engineering

Alternative Alignment E1.2 is marginally less constrained from an engineering perspective.

Both options cover significant topographical constraints with the Potential Alignment in the area of Breakachy farm goes into more challenging terrain to climb round the back of Breakachy Hill. This will make access to the route more challenging.

Economic

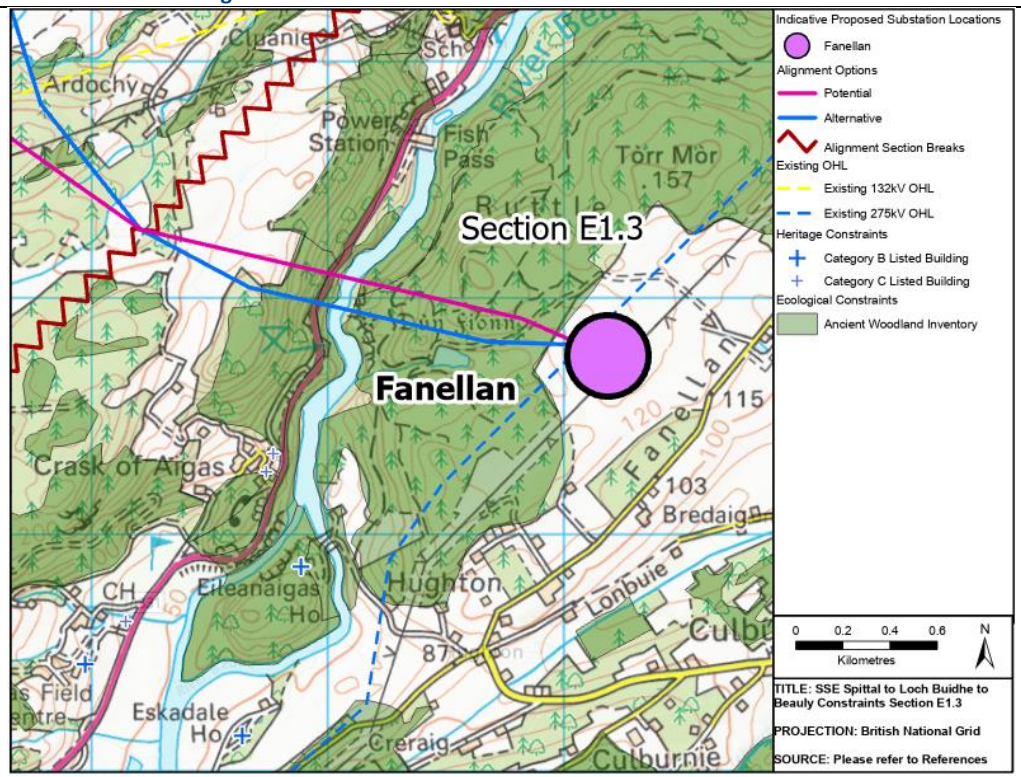
All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment E1.2 has been selected as on balance it is the least constrained option from an environmental perspective. There is a marginal engineering difference from the engineering perspective and both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

5.3.7 Section E1.3

Table 5.14: Section E1.3 Potential Alignment v Alternative Alignment

Potential Alignment		**Alternative Alignment**
<u>Environment</u> Passes through Grade 1a/2a and 2b Ancient Woodland. Passes north of Dun Fionn prehistoric fort. May affect views from properties and core paths in Beauly and along sections of the A831. Crosses the River Beauly. Tower position less prominent at crossing of the Crask of Aigas. <u>Engineering</u> Crosses the A831 road and River Beauly.		<u>Environment</u> Passes through Grade 1a/2a and 2b Ancient Woodland. Oversails Dun Fionn prehistoric fort. May affect views from properties and core paths in Beauly and along sections of the A831. Crosses the River Beauly. <u>Engineering</u> Crosses the A831 road and River Beauly. Difficulties to achieve clearances and standoff from the gorge slope for the overhead line crossing the River Beauly.

<u>Environment</u>

Potential Alignment E1.3 is least environmentally constrained. Alternative Alignment E1.3 has a direct impact on Dun Fionn prehistoric fort at Crask of Aigas which the Potential Alignment avoids to the north.

<u>Engineering</u>

Potential Alignment E1.3 is less constrained from an engineering perspective.

Potential Alignment E1.3 benefits from the routing of the alignment near the Crask of Aigas where it achieves a better crossing tower position as well as the topography South of the River Beauly being marginally more gradual for access and construction. It is noted that the Potential Alignment E1.3 also results in a better overhead line entry into the Fanellan substation.

Economic

All alignment options are within 120% of the lowest capital and operational cost option, so all options are considered acceptable from a cost perspective.

Summary of Multi Disciplinary Appraisal

Potential Alignment E1.3 has been selected as on balance it is the least constrained option from an environmental perspective and has the least engineering constraints. Both options were considered equally acceptable from a cost perspective. This is now subject to consultation with stakeholders, where local and previously unknown considerations may confirm or alter the initial preference.

6. POTENTIAL ALIGNMENT

Following on from the comparative analysis carried out in Section 5, the Potential Alignment is illustrated on **Figure 6.1**.

Potential Alignment

Alignment Section Breaks

Indicative Proposed Substation Locations

Banniskirk

Banniskirk

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section A1.1

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment
Alignment Section Breaks

0 0.45 0.9 1.4 1.8
Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section A1.2

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment
Alignment Section Breaks

0 0.25 0.5 0.75 1
Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section A1.3

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.75 1.5 2.3 3

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section A1.4

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section A1.5

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section B1.1

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

Indicative Proposed Substation Locations

Carnaig

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section B1.2

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

Indicative Proposed Substation Locations

Carnaig

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section C1.1

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section C1.2

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.75 1.5 2.3 3

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section D1.1

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section D1.2

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment 1
Potential Alignment 2
Alignment Section Breaks

Potential 2

Potential 1

0 0.45 0.9 1.4 1.8
Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section E1.1

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential 1

Fanellan

Potential Alignment

Alignment Section Breaks

Indicative Proposed Substation Locations

Fanellan

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section E1.2

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Potential Alignment

Alignment Section Breaks

Indicative Proposed Substation Locations

Fanellan

0 0.45 0.9 1.4 1.8

Kilometers

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: DN
PROJECT: 0629430	CHECKED: BMM
DATE: 27/05/2024	APPROVED: KG

Figure 6.1
Potential Alignment Section E1.3

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

7. CONSULTATION ON THE PROPOSALS

SSEN Transmission places great importance on, and is committed to, consultation and engagement with all parties, or stakeholders, likely to have an interest in proposals for new Projects such as this. Stakeholder consultation and engagement is an essential part of an effective development process.

7.1 Questions for Consideration by Consultees

When providing your comments and feedback, SSEN Transmission would be grateful for your consideration of the questions below:

- Has the approach taken to select the Potential Alignment(s) in your section of interest been clearly
- explained?
- Do you have any specific concerns relating to the alignment options within your section of interest? If so, is there anything we could do to mitigate the impact of this?
- Is there anything you'd like to bring to our attention regarding the Potential Alignment(s) that you believe we may not have already considered such as environmental designations, water courses, local recreational areas etc.?
- Do you feel, on balance, that the Potential Alignment selected is the most appropriate for further consideration at the Environmental Impact Assessment stage?
- SSEN Transmission are currently developing a Community Benefit Fund to support communities in areas with new infrastructure. What suggestions for social or environmental community benefit opportunities do you have that you would like us to consider, or are there any local initiatives you would like us to support?
- Has the approach taken to select the Potential Alignment(s) in your section of interest been clearly explained?
- Do you have any specific concerns relating to the alignment options within your section of interest? If so, is there anything we could do to mitigate the impact of this?
- Is there anything you'd like to bring to our attention regarding the Potential Alignment(s) that you believe we may not have already considered such as environmental designations, water courses, local recreational areas etc.?
- Do you feel, on balance, that the Potential Alignment selected is the most appropriate for further consideration at the Environmental Impact Assessment stage?
- SSEN Transmission are currently developing a Community Benefit Fund to support communities in areas with new infrastructure. What suggestions for social or environmental community benefit opportunities do you have that you would like us to consider, or are there any local initiatives you would like us to support?

7.2 Next Steps

The responses received from the consultation events, and those sought from statutory consultees and other key stakeholders, will inform further consideration of the alignments put forward, and the confirmation of the Proposed Alignment to take forward to EIA.

All comments are requested by **22 July 2024.** A Report on Consultation will be published after the consultation period has ended, which will document the consultation responses received, and the decisions made in light of these responses.

Submission of the Section 37 application is expected to take place in Q4 2024.

APPENDIX A: ALIGNMENT APPRAISAL DETAIL

Section A1.1

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment will impact the following internationally and nationally important sites: Caithness and Sutherland Peatlands Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and Shielton Peatlands Site of Special Scientific Interest (SSSI). The Proposed Development may compromise these sites by passing directly through them resulting in impact on habitat. The Potential Alignment crosses these designations over a distance of approximately 400 m. Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment crosses approximately 750 m of class 1 peatland and may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology The Potential Alignment crosses the Caithness and Sutherland Peatlands SPA, a site which is designated for Black-throated diver, Common scoter, Dunlin, Golden Eagle, Golden plover, Greenshank, Hen harrier, Merlin, Red-throated diver, Short-eared owl, Widgeon and Wood sandpiper. Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Alternative Alignment impact the following internationally and nationally important sites: Caithness and Sutherland Peatlands Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and Shielton Peatlands Site of Special Scientific Interest (SSSI). The Proposed Development may compromise these sites by passing directly through them resulting in impact on habitat. The Alternative Alignment crosses these sites for a distance of approximately 3.4 km and therefore presents a greater potential for impact on Natural Heritage Designations than the Potential Alignment. Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment crosses approximately 2 km of class 1 peatland and may compromise the integrity of GWDTE and therefore presents a greater potential impact on habitats than the Potential Alignment. Ornithology The Alternative Alignment crosses the Caithness and Sutherland Peatlands SPA, a site which is designated for Black-throated diver, Common scoter, Dunlin, Golden Eagle, Golden plover, Greenshank, Hen harrier, Merlin, Red-throated diver, Short-eared owl, Widgeon and Wood sandpiper. Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. The Alternative Alignment presents a greater potential impact on ornithology as the alignment option in within the Caithness and Sutherland Peatlands SPA for a greater extent. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	Designations The Potential Alignment presents the potential to interact with the proposed Flow Country World Heritage Site (WHS). This may compromise the designating features directly or indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape. This option also presents the potential to compromise the designating features of the following scheduled monuments: • SM582 (Spittal Farm, broch 180m E of) • SM450 (Gallow Hillock, cairn on Backlass Hill)	Designations The Alternative Alignment crosses the proposed WHS over a distance of approximately 3.6 km and therefore presents a greater potential impact on Cultural Heritage Designations than the Potential Alignment. The Alternative Alignment presents the potential to impact the same scheduled monuments as the Potential Alignment in addition to the following: • SM721 (Scouthal Burn, chapel & The Clow) • SM13632 (Carn A' Chladha, broch)

Topic	Potential Alignment	Alternative Alignment
	There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Gardens and Designed Landscapes (GDL), setting of an A listed building or directly disturb a B/C listed building.	• SM13634 (Bail A' Chairn, broch) There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Gardens and Designed Landscapes (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings There are dispersed properties adjacent to the Potential Alignment and the closest at Spittal is within c. 180 m of the alignment centreline (Lanergill Farm).	Proximity to Dwellings There are dispersed properties adjacent to the Alternative Alignment and the closest at Spittal is within c. 180 m of the alignment centreline (Lanergill Farm).
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment may compromise view or visual amenity from individual properties at Spittal.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment may compromise view or visual amenity from individual properties at Spittal
Land Use	Agriculture The Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing), 5.3 (land capable of supporting improved grassland) and 4.2 (land capable of supporting mixed agriculture). The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment would require the removal of commercial forestry which may compromise the commercial returns. Recreation The Potential Alignment is adjacent to Loch of Toftingall, an area known to be used for recreational fishing.	Agriculture The Alternative Alignment has a land classification of 6.3 (land capable of supporting only rough grazing), 5.3 (land capable of supporting improved grassland) and 4.2 (land capable of supporting mixed agriculture). The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry No potential for impact on commercial forestry. Recreation The Alternative Alignment is further to the east to Loch of Toftingall than the Potential Alignment; the area is known to be used for recreational fishing.
Planning	Proposals The following live wind farm planning applications are located within or adjacent to the Potential Alignment: • Watten Wind Farm	Proposals The following live wind farm planning applications are located within or adjacent to the Alternative Alignment: • Watten Wind Farm
Engineering	Infrastructure Crossings No major infrastructure crossing. Two LV Lines are crossed that would need undergrounding. Crossing two minor roads. Environmental Design Traverses through elevations below 100mAOD which are not considered challenging. UXO risk level mostly Moderate (at 10 towers, others N/A). No towers within Ancient Woodland.	Infrastructure Crossings No major infrastructure crossing. Four LV Lines are crossed that would need undergrounding. Crossing two minor roads. Environmental Design Traverses through elevations below 100mAOD which are not considered challenging. UXO risk level mostly Moderate (at 16 towers, others Low). No towers within Ancient Woodland.

Topic	Potential Alignment	Alternative Alignment
	10 towers are within National Forestry Inventory. 1 tower within SAC, SPA, SSSI, RAMSAR and Important Bird Areas; all others outside these designations. No clashes with Scheduled Monuments. According to SEPA flood maps, <2% of the route is located within the 1 in 10-year (high likelihood) river flood risk zones and <4% of the route is located within 1 in 10-year surface flood risk zones associated with Loch Toftingall and various tributaries. <u>Ground Conditions</u> Alignment is across generally flat ground with slope angles varying from 0° - 2°. BGS mapping records - Till superficial deposits at 4 towers and Peat at 10 towers, all underlain by Spittal Flagstone or Berriedale Sandstone bedrock. OHL travels through less Class 1 Peat (1,043m) and no Class 2. Geological fault line present near 1 tower footprint requiring additional GI works. <u>Construction & Maintenance</u> There is an existing network of tracks and roads within 1 km of all alignment options. Alignment requires a total of eight angle towers. <u>Proximity</u> No residential properties within 170m of the alignment, residential property at Lanergill Farm within 180 m of the Potential alignment. Alignment traverses in between existing Halsary Wind Farm and proposed Watten Wind Farm. There are no known communication masts, urban areas or metallic pipelines that will impact on the alignment option.	No towers are within National Forestry Inventory, with only 1 adjacent. 8 towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas, with 1 tower also adjacent. No clashes with Scheduled Monuments. <u>Ground Conditions</u> Alignment is across generally flat ground with slope angles varying from 0° - 4°. BGS mapping records - Till superficial deposits at 12 towers and Peat at 10 towers, all underlain by Spittal Flagstone, Lybster Flagstone or Berriedale Sandstone bedrock. OHL travels through more Class 1 Peat (2,032m) and no Class 2. Geological fault line present near 2 tower footprints requiring additional GI works. <u>Construction & Maintenance</u> There is an existing network of tracks and roads within 1 km of all alignment options. Alignment requires a total of eight angle towers. <u>Proximity</u> No residential properties within 170m of the alignment. Three properties between 170m and 200m. Alignment proposed on the outside side (east) of proposed Watten Wind Farm. There are no known communication masts, urban areas or metallic pipelines that will impact on the alignment option
Economic	Both alignment options are within 120% of the lowest capital and operational cost option, so both options are considered acceptable from a cost perspective.	Both alignment options are within 120% of the lowest capital and operational cost option, so both options are considered acceptable from a cost perspective.

Section A1.2

Topic	Potential Alignment
Natural Heritage	<u>Designations</u> The Potential Alignment passes through the following internationally and nationally important sites: Caithness and Sutherland Peatlands Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and Shielton Peatlands Site of Special Scientific Interest (SSSI) as well as the proposed Flow Country World Heritage Site. <u>Protected Species</u> European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. <u>Habitats</u> The Potential Alignment crosses approximately 10 km of class 1 and 2 peatland and may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). <u>Ornithology</u> The Potential Alignment crosses the Caithness and Sutherland Peatlands SPA, a site which is designated for black-throated diver, common scoter, dunlin, golden eagle, golden plover, greenshank, hen harrier, merlin, red-throated diver, short-eared owl, widgeon and wood sandpiper. Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. <u>Geology, Hydrology and Hydrogeology</u> There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	<u>Designations</u> The Potential Alignment presents the potential to interact with the proposed Flow Country World Heritage Site (WHS), crossing the site for a distance of 3.2 km. This may compromise the designating features directly or indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape. This option also presents the potential to compromise the designating features of the following scheduled monuments: • SM520 (Ballachly, broch 360m S of Stemster) • SM555 (Greysteil Castle, broch, Loch Rangag) • SM420 (Achkinloch, stone setting SW of, Loch Stemster) • SM419 (Achkinloch, chambered cairn 755m SW of, Loch Stemster) There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. <u>Cultural Heritage Assets</u> The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscapes (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	<u>Proximity to Dwellings</u> There are dispersed properties adjacent to the Potential Alignment and the closest at Achavanich is within c. 170 m of the alignment centreline.
Landscape and Visual	<u>Designations</u> The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. <u>Visual</u> The Potential Alignment may compromise the view or visual amenity from individual properties along the A9, as well as recreational interests including core paths at Achavanich.
Land Use	<u>Agriculture</u>

Topic	Potential Alignment
	The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing). There is also an area of class 5.3 (land capable of improved grassland) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The alignment option avoids interaction with areas of commercial forestry. Recreation The Potential Alignment has the potential to compromise the recreational amenity of core paths in Achavanich.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings No major infrastructure crossing. Runs parallel with LV and 132kV lines. Environmental Design Traverses through elevations generally below 200mAOD which are not considered challenging. However, there are 2 towers at elevations of approx. 200mAOD towards the southern extent of this section. UXO risk level is Moderate throughout. 9 towers are within National Forestry Inventory, with 29 outside NFI land. No towers are sited within Ancient Woodland. 10 towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas, with 2 additional towers adjacent to these designations. No clashes with Scheduled Monuments. According to SEPA flood maps, <1% of the route is located within 1 in 10-year (high likelihood) river flood risk zones and <1% of the route is located within 1 in 10-year surface flood risk zones. Ground Conditions Most of the alignment is across generally flat ground with slope angles varying from 1° - 5°. However, there are three towers at angles between 6° - 8° which may be more challenging. BGS mapping records - Peat at 27 towers, Till at 1 tower and no superficial deposits at 9 towers. Whole section underlain by either Lybster Flagstone or Berriedale Sandstone bedrock. 9 towers within Class 1 Peat. 20 towers within Class 2 Peat. Geological fault line present near 2 tower footprints requiring additional GI works. Construction & Maintenance There is an existing network of tracks and roads within 1 km of all alignment options. Alignment has a total of 6 angle towers. Proximity No residential property within 170m of the alignment. Three residential properties between 170 and 200m of the alignment.
Economic	Potential Alignment A1.2 is the only option identified in this section.

Section A1.3

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment is unlikely to compromise the conservation status of the designated. Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment crosses approximately 250 m of class 1 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are likely to be present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Alternative Alignment is unlikely to compromise the conservation status of the designated. Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment is unlikely to compromise the conservation status of Annex 1 habitats. Ornithology Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are likely to be present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	Designations The Potential Alignment would avoid any direct interaction with designating features (World Heritage Site (WHS) , Scheduled Monuments (SM), Garden and Designed Landscapes(GDL)). There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building.	Designations The Alternative Alignment presents the potential to interact with the proposed Flow Country WHS, crossing the site for a distance of approximately 170 m. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings No residential properties within 170m of the potential alignment. Two properties between 170m and 200m	Proximity to Dwellings No residential properties within 170m of the alternative alignment. One property between 170m and 200m.
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment may compromise the view or visual amenity from the individual property at Crofts of Benachielt.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment may compromise the view or visual amenity from the individual property at Crofts of Benachielt.

Topic	Potential Alignment	Alternative Alignment
Land Use	Agriculture The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing). There is also an area of class 5.3 (land capable of improved grassland) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment avoids interaction with areas of commercial forestry. Recreation The Potential Alignment avoids interaction with core paths, national cycle routes and areas known to be used for commercial highland sports.	Agriculture The majority of the Alternative Alignment has a land classification of 6.3 (land capable of supporting only rough grazing). There is also an area of class 5.3 (land capable of improved grassland) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative Alignment avoids interaction with areas of commercial forestry. Recreation The Alternative Alignment avoids interaction with core paths, national cycle routes and areas known to be used for commercial highland sports.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.	Proposals The Alternative Alignment is consistent with other current third-party proposals and planning applications known to the planning system..
Engineering	Infrastructure Crossings Crossing 132kV HV line and A9. Crossing one LV line that would need to be undergrounded. Environmental Design Traverses through elevations below 200mAOD which are not considered challenging. UXO risk level mostly Moderate at 2 towers. No towers within National Forestry Inventory. No towers within Ancient Woodland. No towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas No clashes with Scheduled Monuments. According to SEPA flood maps, approx. 5% of the route is located within the 1 in 10-year (high likelihood) river. flood risk zone associated with the Burn of Braehungie. Ground Conditions Alignment is across generally steeper ground with slope angles around 6° - 12° before becoming flatter in the south-west. BGS mapping shows that generally no superficial deposits are present excepting limited areas of Alluvium associated with the Burn, all underlain by Berriedale Sandstone bedrock. OHL travels through some Class 2 peat (approx. 150m) Geological fault lines not recorded in the area. Construction & Maintenance There is an existing network of tracks and roads within 1 km of all alignment options. Alignment requires a total of two angle towers. Proximity	Infrastructure Crossings Crossing 132kV HV line and A9. Crossing one LV line that would need to be undergrounded. Environmental Design Traverses through elevations below 200mAOD which are not considered challenging. UXO risk level is Moderate at 1 tower. No towers within National Forestry Inventory. No towers within Ancient Woodland. No towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas, 1 tower approx. 50m adjacent. No clashes with Scheduled Monuments. According to SEPA flood maps, 0% of the route is located within the 1 in 10-year (high likelihood) river flood risk zone associated with the Burn of Braehungie. Ground Conditions Northernmost part of alignment sloping up to 12° but rest is across generally flat ground with slope angles varying from 0° - 4°. BGS mapping shows that generally no superficial deposits are present excepting limited areas of Alluvium associated with the Burn, all underlain by Berriedale Sandstone bedrock. OHL travels through no Class 1 or 2 Peat Geological fault lines not recorded in the area. Construction & Maintenance There is an existing network of tracks and roads within 1 km of all alignment options. Alignment requires a total of two angle towers. Proximity

Topic	Potential Alignment	Alternative Alignment
	No residential properties within 170m of the alignment. Two properties between 170m and 200m.	No residential properties within 170m of the alignment. One property between 170m and 200m.
Economic	Both alignment options are within 120% of the lowest capital and operational cost option, so both options are considered acceptable from a cost perspective.	Both alignment options are within 120% of the lowest capital and operational cost option, so both options are considered acceptable from a cost perspective.

Section A1.4

Topic	Potential Alignment
Natural Heritage	<u>Designations</u> The Potential Alignment passes through Grade 1a and 2a Ancient Woodland and has the potential to impact the following internationally and nationally important sites: Dunbeath Water Site of Special Scientific Interest (SSSI), Berriedale Water SSSI, Berriedale and Langwell Waters Special Area of Conservation (SAC) and Langwell Water SSSI. The Proposed Development may compromise these sites by passing directly through them. <u>Protected Species</u> European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. <u>Habitats</u> The Potential Alignment may compromise Annex 1 habitats within areas of ancient woodland. The Potential Alignment also crosses approximately 12.5 km of class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). <u>Ornithology</u> Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. <u>Geology, Hydrology and Hydrogeology</u> There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	<u>Designations</u> The Potential Alignment presents the potential to compromise the designating features of the following scheduled monuments: • SM453 Guidebest, stone circle, Latheronwheel Burn • SM568 Minera, broch 90m SSE of • SM6015 Minera, hut circles 330m SSE of,370m ESE of and 270m E of • SM6014 Buolacrabher, settlement 1170m S of • SM5224 Buolacrabher, chambered cairn 1350m SSW of • SM445 Buolacrabher, chambered cairn 1550m S of • SM425 Bridge of Badnagie, chambered cairn 610m NNW of • SM5186 Bridge of Badnagie, settlement 400m NW of • SM5304 Bridge of Badnagie, standing stone 600m N of • SM5230 Balcraggie Lodge, settlement 700m N of • SM5191 Loedebest, cairn 500m SSE of • SM438 Cairn Liath, long cairn and round cairn • SM5152 Loedebest, settlement • SM5145 Loedebest, settlement 650m W of • SM574 Bridge of Rhemullen, broch 450m NW of • SM5150 Achorn Bridge, settlements 1100m NNE of • SM522 Balantrath, broch 135m WNW of • SM512 Achorn Bridge, prehistoric and post medieval settlement 400m ENE of • SM511 Achorn, broch 200m NW of • SM3521 Balcraggie Lodge, four hut circles 300m SSE of

Topic	Potential Alignment
	• SM5092 Achorn Bridge, settlements 1400m WSW of • SM526 Burg Ruaidh, or Borgue Roy, broch, Berriedale Wate • SM596 Upper Borgue, broch • SM424 Clais-Cairn, chambered cairn 550m SW of • SM502 Upper Borgue, standing stone 410m SSE of • SM3473 Rinsary, homestead 500m WNW of Berriedale • SM3475 Tulach Bad a'Choilich, hut circles, settlement and cairns 400m ENE of • SM3473 Rinsary, homestead 500m WNW of Berriedale • SM577 Rinsary, broch and post-medieval farmstead 300m SSW of, Berriedale • SM3559 Cnoc Fionn, hut circle 250m SW of • SM3537 Cnoc Fionn, hut circle 250m SSW of • SM460 Langwell House, cairn 400m SW of,Berriedale • SM3436 Langwell Plantation, souterrain 130m W of Kennels • SM13631 Turnal Rock, hut circle complex 250m NW of Langwell Tulloch broch • SM3440 Tulloch Turnal, broch 500m WNW of Turnal Rock, Langwell • SM525 Borgue Langwell, homestead 150m NW of broch, Berriedale • SM524 Borgue Langwell, broch, outworks and later settlement, Berriedale • SM423 Cnoc Bad Asgaraidh, chambered cairn 570m E of, Langwell There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets at Dunbeath and Berriedale. <u>Cultural Heritage Assets</u> The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	<u>Proximity to Dwellings</u> There are dispersed properties adjacent to the alignment option and the closest is within c. 250 m of the alignment centreline (Achorn House).
Landscape and Visual	<u>Designations</u> The Potential Alignment may compromise the special quality of the following nationally and regionally important designated landscapes: Causeymire - Knockfin Flows Wild Land Area (WLA) and The Flow Country and Berriedale Coast Special Landscape Area (SLA). <u>Visual</u> The Potential Alignment may compromise the view or visual amenity from individual properties. There could also be visibility of the Proposed Development from the A9 and core paths in Dunbeath and Berriedale.
Land Use	<u>Agriculture</u> The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing). There is also an area of class 5.3 (land capable of improved grassland) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). <u>Forestry</u> The Potential Alignment avoids interaction with areas of commercial forestry. <u>Recreation</u> The Potential Alignment has the potential to compromise the recreational amenity of core paths in Dunbeath and Berriedale. The Potential Alignment also crosses Dunbeath, Berriedale and Langwell Waters, rivers known to be used for recreational fishing.
Planning	<u>Proposals</u>

Topic	Potential Alignment
	The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	<u>Infrastructure Crossings</u> No major infrastructure crossing. Crossing one LV line that would need to be undergrounded. Runs parallel to the 132kV line in many parts of this section. <u>Environmental Design</u> Traverses through elevations generally below 200mAOD in the northern part of this section which are not considered challenging. However, there are 23 towers at elevations >200mAOD (4 near Berriedale, 2 near Cnoc Coir' a Phuill, 2 near Creag Thoraraidh and the rest continuing across Caen Hill towards the River Helmsdale). The highest elevation recorded is 372mAOD with numerous towers >250mAOD which will be very challenging. UXO risk level is generally not applicable to this section of the route excepting 4 towers within the Moderate risk zone towards Helmsdale (at the southern end of this section). 7 towers are within National Forestry Inventory, with 5 adjacent and all others outside NFI land. No towers are sited within Ancient Woodland, 5 towers lie adjacent. No towers within SAC, SPA, RAMSAR or Important Bird Areas. 1 tower is in a SSSI and 5 are adjacent to SSSI's. No clashes with Scheduled Monuments. According to SEPA flood maps, <3% of the route is located within 1 in 10-year (high likelihood) river flood risk zones and <1% of the route is located within 1 in 10-year surface flood risk zones. <u>Ground Conditions</u> Topography is variable across the alignment with slope angles varying from 0° - 22°. The flatter, less challenging ground tends to be in the north of this section. BGS mapping records - Peat at 34 towers, Till deposits or no superficial deposits at all other towers. Whole section underlain by either Berriedale / Ousdale Arkose Sandstones, Ben Dorrery / Badbea Breccio / Langwell Conglomerates, Kildonan Psammite, Braemore Mudstone and Helmsdale Granite bedrock. 17 towers within Class 1 Peat. 18 towers within Class 2 Peat. Geological fault line present near 1 tower footprint requiring additional GI works. <u>Construction & Maintenance</u> Majority of the alignment in this section over 1km from existing (public) road network. Alignment has a total of 12 angle towers. <u>Proximity</u> No residential property within 170m of the alignment. One residential property (Keeper's cottage) between 170 and 200m of the alignment.
Economic	Potential Alignment A1.4 is the only option identified in this section.

Section A1.5

Topic	Potential Alignment
Natural Heritage	<u>Designations</u> The Potential Alignment is unlikely to compromise the conservation status of the site or its designating features. <u>Protected Species</u> European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. <u>Habitats</u> The Potential Alignment crosses approximately 12 km of class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). <u>Ornithology</u> Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. <u>Geology, Hydrology and Hydrogeology</u> There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	<u>Designations</u> This option also presents the potential to compromise the designating features of the following scheduled monuments: • SM1841 Caen, hut circles and souterrain 982m, 1035m and 1083m NNW of • SM1771 Caen, long cairn 460m NNW of • SM432 Caen, long cairn 530m NW of Helmsdale • SM1770 Caen, long cairn and round cairn 470m and 490m W of • SM13647 Caen Burn West, 935m WNW of Caen • SM13627 Carn nan Uaigh, prehistoric settlement • SM1775 Carradh nan Clach, two standing stones There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets at Marrel and Loth Burn. <u>Cultural Heritage Assets</u> The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	<u>Proximity to Dwellings</u> There are no properties adjacent to the Potential Alignment. The closest is c. 1 km from the alignment centreline in West Helmsdale (Highfield).
Landscape and Visual	<u>Designations</u> The Potential Alignment is likely to compromise the special qualities of the following regionally designated landscape: Loch Fleet, Loch Brora and Glen Loth Special Landscape Area (SLA). <u>Visual</u> The Potential Alignment may compromise views or visual amenity from recreational interests including core paths at Helmsdale.
Land Use	<u>Agriculture</u> The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing). There is also an area of class 5.3 and 5.1 (land capable of improved grassland) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1).

Topic	Potential Alignment
	Forestry The Potential Alignment avoids interaction with areas of commercial forestry. Recreation The Potential Alignment may compromise the view or visual amenity from core paths at Helmsdale. The Potential Alignment also crosses the River Helmsdale used for recreational fishing.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings One major infrastructure crossing (railway line). Crossing one LV line that would need to be undergrounded. Environmental Design Traverses through elevations generally >200mAOD which are considered challenging for construction. Highest recorded elevation is 375mAOD. Most of this section is within a Moderate UXO risk zone, with final 11 towers at the southern end of this section being outside the risk zone. 4 towers are within National Forestry Inventory, with others outside NFI land. No towers are sited within Ancient Woodland. No towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas. No clashes with Scheduled Monuments. According to SEPA flood maps, <3% of the route is located within 1 in 10-year (high likelihood) river flood risk zones and 0% of the route is located within 1 in 10-year surface flood risk zones. Ground Conditions Topography is variable across the alignment with slope angles varying from 2° - 22°. Most towers are on ground sloping 6° or more. Only 1 tower is on ground sloping 20°. BGS mapping records - Peat at 29 towers, Till, Alluvium or no superficial deposits at other towers. Whole section underlain by either Helmsdale Granite, Braemore Mudstone, Ousdale Arkose Sandstone, Badbea Breccio Conglomerate or Kildonan Psammite bedrock. 9 towers within Class 1 Peat. 26 towers within Class 2 Peat. Geological fault line present near 2 tower footprints requiring additional GI works. Construction & Maintenance Majority of the alignment in this section over 1km from existing (public) road network. Alignment has a total of 8 angle towers. Proximity No residential property within 170m or 200m of the alignment.
Economic	Potential Alignment A1.5 is the only option identified in this section.

Section B1.1

Topic	Potential Alignment
Natural Heritage	<u>Designations</u> The Potential Alignment is unlikely to compromise the conservation status of the site or its designating features. <u>Protected Species</u> European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. <u>Habitats</u> The Potential Alignment crosses approximately 11.5 km of class 1 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). <u>Ornithology</u> Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. <u>Geology, Hydrology and Hydrogeology</u> There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	<u>Designations</u> The Potential Alignment presents the potential to compromise the designating features of the following scheduled monuments: • SM1794 (Killin, chambered cairn 800m N of, Loch Brora) • SM13617 (Carrol, fish farm 430m SE, 410m SSE, 660m and 890m SSW of) • SM1846 (Carrol, broch 600m SSW of, Loch Brora) • SM1854 (Duchary Rock, fort) There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets at Loch Brora. <u>Cultural Heritage Assets</u> The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	<u>Proximity to Dwellings</u> There are dispersed properties adjacent to the Potential Alignment and the closest at Carrol is within c. 215 m of the alignment centreline.
Landscape and Visual	<u>Designations</u> The Potential Alignment is likely to compromise the special qualities of the following regionally designated landscape: Loch Fleet, Loch Brora and Glen Loth Special Landscape Area (SLA). <u>Visual</u> The Potential Alignment may compromise view or visual amenity from recreational interests including core paths at Brora.
Land Use	<u>Agriculture</u> The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing) and 5.3 (land capable of improved grassland). There is also an area of 5.1 and 3.2 (land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common). The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). <u>Forestry</u> The Potential Alignment avoids interaction with areas of commercial forestry.

Topic	Potential Alignment
	Recreation The Potential Alignment may compromise the view or visual amenity from core paths at Helmsdale. The Potential Alignment also crosses Loch Brora, an area known to be used for recreational fishing and kayaking.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings One major crossing (Loch Brora). Crossing two LV lines that would need to be undergrounded. Environmental Design Traverses through elevations generally >200mAOD which are considered challenging for construction. Highest recorded elevation is 370mAOD. UXO risk does not affect this section of the alignment. 12 towers are within National Forestry Inventory, with 18 adjacent and all others outside NFI land. No towers are sited within Ancient Woodland, with 2 adjacent. No towers within SAC, SPA, SSSI, RAMSAR and Important Bird Areas. 1 tower lies adjacent to a SSSI. No clashes with Scheduled Monuments. According to SEPA flood maps, <2% of the route is located within 1 in 10-year (high likelihood) river flood risk zones and <1% of the route is located within 1 in 10-year surface flood risk zones. Ground Conditions Topography varies across the alignment with several towers in flatter areas of slope angles ranging from 1° - 5° and all other towers on more challenging slopes of between 6° - 14°. 1 tower is on a 20° slope. BGS mapping records - Peat at 22 towers with Till, River Terrace Deposits, Lacustrine Deltaic Deposits and no superficial deposits at all other towers. Whole section underlain by either Kildonan / Altnaharra Psammites, Badbea Breccio / Langwell Conglomerates, or Berriedale / Ulbster Sandstone bedrock. 14 towers within Class 1 Peat. 23 towers within Class 2 Peat. Geological fault line present near 2 tower footprints requiring additional GI works. Construction & Maintenance Majority of the alignment in this section over 1km from existing (public) road network. Alignment has a total of 4 angle towers. Proximity One residential property (north of Loch Brora crossing) less than 170m (approx. 140m) from the alignment.
Economic	Potential Alignment B1.1 is the only option identified in this section.

Section B1.2

Topic	Potential Alignment
Natural Heritage	<u>Designations</u> The Potential Alignment passes through Grade 1a Ancient Woodland and has the potential to impact the following internationally and nationally important sites: Strathfleet Site of Special Scientific Interest (SSSI), Strath Carnaig and Strath Fleet Moors SSSI and Special Protection Area (SPA). The Proposed Development may compromise these sites by passing directly through them. <u>Protected Species</u> European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. <u>Habitats</u> The Potential Alignment crosses approximately 5.5 km of class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terestrial Ecosystems (GWDTE). <u>Ornithology</u> The Potential Alignment crosses Strath Carnaig and Strath Fleet Moors SPA, designated for Hen harrier. Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. <u>Geology, Hydrology and Hydrogeology</u> There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	<u>Designations</u> The Potential Alignment presents the potential to compromise the designating features of the following scheduled monuments: • SM1862 (East Kinnauld School, broch NE of) • SM1861 (East Kinnauld, fort 1000m NE of Eiden) • SM1772 (Carn Liath,cairn & chambered cairn 1200m WNW of Torboll) • SM1830 (Brae Cottage, two hut circles 120m and 200m ESE of) • SM1840 (Brae, broch, Strath Carnaig W of Mound Junction) There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets at Rogart. <u>Cultural Heritage Assets</u> The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory (Garden and Designed Landscape) GDL, setting of an A listed building or directly disturb a B/C listed building.
People	<u>Proximity to Dwellings</u> There are dispersed properties adjacent to the Potential Alignment and the closest at East Kinnauld is within c. 300 m of the alignment centreline.
Landscape and Visual	<u>Designations</u> The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. <u>Visual</u> The Potential Alignment may compromise view or visual amenity from recreational interests (core paths at Rogart).
Land Use	<u>Agriculture</u>

Topic	Potential Alignment
	The majority of the Potential Alignment has a land classification of 6.3 (land capable of supporting only rough grazing) and 5.3 (land capable of improved grassland). There is also an area of 5.1 and 3.2 (land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common). The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment avoids interaction with areas of commercial forestry. Recreation The Potential Alignment may compromise the view or visual amenity from core paths at Rogart. The Potential Alignment also crosses River Fleet, an area known to be used for recreational fishing.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings Three major infrastructure crossings (A839, railway and 132kV). Crossing one LV line that would need to be undergrounded. Parts of the alignment in this section runs parallel to 275kV and part of alignment in this section runs parallel to 132kV. Environmental Design Traverses through varying elevations ranging from 10m AOD to 250mAOD. 13 towers are sited at challenging elevations >200mAOD. UXO risk does not affect this section of the alignment. 15 towers are within National Forestry Inventory, with 3 adjacent and all others outside NFI land. No towers are sited within Ancient Woodland, 1 lies adjacent. No towers within SAC or RAMSAR land. 32 towers within SSSI and 30 towers within SPA & Important Bird Areas. No clashes with Scheduled Monuments. According to SEPA flood maps, <2% of the route is located within 1 in 10-year (high likelihood) river flood risk zones and <1% of the route is located within 1 in 10-year surface flood risk zones. Ground Conditions Topography varies across the alignment with several towers in flatter areas of slope angles ranging from 0° - 5° and all other towers on more challenging slopes of between 6° - 19°. 1 tower is on a 24° slope. BGS mapping records - Peat at 8 towers, Till, Till & Moranic Deposits, River Terrace Deposits and no superficial deposits at all other towers. Whole section underlain by either Altnaharra Psammite, Langwell Conglomerate or Lewisian Complex Othogneiss. No towers within Class 1 Peat. 17 towers within Class 2 Peat. Geological fault line present near 1 tower footprint requiring additional GI works. Construction & Maintenance Majority of the alignment in this section over 1km from existing (public) road network. Alignment has a total of 11 angle towers. Proximity No residential property within 170m or 200m of the alignment.

Topic	Potential Alignment
Economic	Potential Alignment B1.2 is the only option identified in this section.

Section C1.1

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment passes through Grade 2b Ancient Woodland (of long-established areas of plantation origin) and has the potential to impact the following internationally and nationally important sites: Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes SSSI. Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment may compromise Annex 1 habitats including woodland and blanket bog. The Potential Alignment also crosses areas of Class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology The eastern end of the Potential Alignment intersects the Strath Carnaig and Strath Fleet Moors SPA/SSSI which is designated for breeding hen harrier. Other Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission SPP will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Small numbers of target species – greylag goose and red kite – have been recorded flying over the Potential Alignment at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Alternative Alignment passes through Grade 2b Ancient Woodland (of long-established areas of plantation origin) and has the potential to impact the following internationally and nationally important sites: Strath Carnaig and Strath Fleet Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes SSSI. Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment only passes through areas of Class 2 peatland. Ornithology The eastern end of the Alternative Alignment intersects the Strath Carnaig and Strath Fleet Moors SPA/SSSI which is designated for breeding hen harrier. Other Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission SPP will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Small numbers of target species – greylag goose and red kite – have been recorded flying over the Potential Alignment at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	Designations The Potential Alignment passes adjacent to Carbisdale Battlefield which may compromise the designating features indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape. The Potential Alignment also presents the potential to compromise the designating features of the following scheduled monuments: SM5470 (Invershin Farm, settlement and burnt mound 1200m E of), SM5497 (Invershin Farm, settlement and burnt mound 500m E of), SM1792 (Invershin Station, chambered cairn 400m N of), SM5498 (Invershin Primary School, settlement 600m E of), SM5462 (Invershin Primary School, settlement 760m NE of and 750m ENE of) and SM1791 (Invershin Farm, standing stone 220m ENE of) through changes to their setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the Potential Alignment. There is a cluster of non-designated assets at the western end of the Potential Alignment. Cultural Heritage Assets	Designations The Alternative Alignment passes through SM5470 (Invershin Farm, settlement and burnt mound 1200m E of) as opposed to the north which has greater potential for impacts on setting. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building. Shin viaduct is c. 1 km to the south of the Alternative Alignment and an existing overhead line is between the alignment option and this asset.

Topic	Potential Alignment	Alternative Alignment
	The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building. Shin viaduct is c. 1 km to the south of the Potential Alignment and an existing overhead line is between the alignment option and this asset.	
People	Proximity to Dwellings There are dispersed properties adjacent to the Potential Alignment and the closest is within c. 250 m of the alignment centreline (Creide).	Proximity to Dwellings There are dispersed properties adjacent to the Alternative Alignment and the closest is within c. 250 m of the alignment centreline (Creide).
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment may compromise view or visual amenity from Carbisdale Castle and other individual properties at Inverhouse, Culrain and Invershin, as well as recreational interests (core paths and Inverness to John O' Groats NCN Route 1).	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment may compromise view or visual amenity from Carbisdale Castle and other individual properties at Inverhouse, Culrain and Invershin, as well as recreational interests (core paths and Inverness to John O' Groats NCN Route 1).
Land Use	Agriculture The majority of the Potential Alignment has a land classification of 5.3 (land capable of improved grassland). There is also an area with a classification of 4.1 (land capable of supporting mixed agriculture) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment would require the removal of commercial forestry which may compromise the commercial returns. Recreation The Potential Alignment has the potential to compromise the recreational amenity of Inverness to John O' Groats NCN Route 1 and core paths in Invershin and Culrain. The Potential Alignment is also crosses the Kyle of Sutherland, used for fishing.	Agriculture The majority of the Alternative Alignment has a land classification of 5.3 (land capable of improved grassland). There is also an area with a classification of 4.1 (land capable of supporting mixed agriculture) along the alignment. The Alternative Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative Alignment passes through a greater area of commercial forestry. Recreation The Alternative Alignment has the potential to compromise the recreational amenity of Inverness to John O' Groats NCN Route 1 and core paths in Invershin and Culrain. The Alternative Alignment is also crosses the Kyle of Sutherland, used for fishing.
Planning	Proposals The following live wind farm planning applications are located within the Potential Alignment: • Garvary Wind Farm • Balblair Wind Farm	Proposals The following live wind farm planning applications are located within the Alternative Alignment: • Garvary Wind Farm • Balblair Wind Farm
Engineering	Infrastructure Crossings The potential alignment has a number of crossings including Kyle of Sutherland River crossing, existing 275kV and 132kV infrastructure, A836 road crossing, and a railway crossing however, both options contain the same crossings so no significant differentiator has been identified. Environmental Design Both alignments cross the Kyle of Sutherland flood zone. The crossing towers for both options have been spotted such that the towers should be located outwith the flood zone however further mitigations may still be required. Both options cross the Kyle of Sutherland River and so no differentiator has been identified. Ground Conditions	Infrastructure Crossings The potential alignment has a number of crossings including Kyle of Sutherland River crossing, existing 275kV and 132kV infrastructure, A836 road crossing, and a railway crossing however, both options contain the same crossings so no significant differentiator has been identified. Environmental Design Both alignments cross the Kyle of Sutherland flood zone. The crossing towers for both options have been spotted such that the towers should be located outwith the flood zone however further mitigations may still be required. Both options cross the Kyle of Sutherland River and so no differentiator has been identified. Ground Conditions

Topic	Potential Alignment	Alternative Alignment
	The potential solution routes the line out of Carnaig down a valley leading to more gradual ground slopes than encountered on the alternative leading to easier installation of towers and accesses. The route goes through FLS forestry however makes best use of a fire break to limit deforestation. There is recorded peat within the area which may increase complexity of earthworks required to install towers and accesses. <u>Construction and Maintenance</u> The option crosses an area where a Protected Species activity is known. This can significantly restrict construction programmes to be outside of breeding season. Again, this risk is present on both alignment options. There is an existing network of tracks and roads which can be used by either option. See ground conditions above for further commentary regarding the construction and installation. <u>Proximity</u> The potential option routes the line North of proposed wind farm to achieve. The current alignment achieves a stand off of 300m which can likely be bettered to the required 450m exclusion zone. The potential does route near scheduled monuments and Canmore designations which may require additional controls during construction to enable construction of the line.	The Alternative routes over undulating ground out of Carnaig increasing the complexity of earthworks required to install the accesses and tower. Access from Carnaig to FLS land may require diversion from shortest possible route to maintain a standard gradient of 8%. There is recorded peat within the area which may increase complexity of earthworks required to install towers and accesses. <u>Construction and Maintenance</u> The option crosses an area where a Protected Species activity is known. This can significantly restrict construction programmes to be outside of breeding season. Again, this risk is present on both alignment options. There is an existing network of tracks and roads which can be used by either option. See ground conditions above for further commentary regarding the construction and installation. <u>Proximity</u> The Alternative option routes through a potential windfarm with no potential for change to achieve the required 450m exclusion zone. The Alternative alignment also routes through various Canmore designations as well as oversailing Scheduled monuments which will restrict construction in these areas.
Economic	C1.1 Potential capital and operational costs are greater than the lowest cost option C1.1 Alternative but remain within 120% of the lowest cost.	C1.1 Alternative alignment has the lowest estimated capital and operational cost.

Section C1.2

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment passes through Grade 2b Ancient Woodland (of long-established areas of plantation origin) and is adjacent to the following internationally and nationally important sites: River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes Site of Special Scientific Interest (SSSI). Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment may compromise Annex 1 habitats including woodland and blanket bog. The Potential Alignment also crosses a small area of Class 1 peatland and may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species may also be present, however the application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Small numbers of target species – greylag goose and red kite – have been recorded flying over the Potential Alignment at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Alternative Alignment passes through Grade 2b Ancient Woodland (of long-established areas of plantation origin) and is adjacent to the following internationally and nationally important sites: River Oykel Special Area of Conservation (SAC) and Kyle of Sutherland Marshes Site of Special Scientific Interest (SSSI). Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment passes through a smaller area of Class 1 peatland. Ornithology Schedule I, Birds of Conservation Concern (BoCC) or nesting bird species may also be present, however the application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Small numbers of target species – greylag goose and red kite – have been recorded flying over the Potential Alignment at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	Designations The Potential Alignment passes adjacent to Carbisdale Battlefield which may compromise the designating features indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the Potential Alignment. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.	Designations The Alternative Alignment passes further west from Carbisdale Battlefield which reduces the potential to compromise the designating features indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings There are no properties adjacent to the Potential Alignment. The village of Culrain is over 1 km to the east.	Proximity to Dwellings There are no properties adjacent to the Alternative Alignment. The village of Culrain is over 1 km to the east.
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes.

Topic	Potential Alignment	Alternative Alignment
	Visual The Potential Alignment may compromise view or visual amenity from individual properties at Culrain, as well as recreational interests (core paths and Inverness to John O' Groats NCN Route 1).	Visual The Alternative Alignment may compromise view or visual amenity from individual properties at Culrain, as well as recreational interests (core paths and Inverness to John O' Groats NCN Route 1).
Land Use	Agriculture The majority of the Potential Alignment has a land classification of 5.3 (land capable of improved grassland). There is also an area with a classification of 4.1 (land capable of supporting mixed agriculture) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment would require the removal of commercial forestry which may compromise the commercial returns from the forestry. Recreation The Potential Alignment has the potential to compromise the recreational amenity of Inverness to John O' Groats National Cycle Route 1 and core paths in Culrain.	Agriculture The majority of the Alternative Alignment has a land classification of 5.3 (land capable of improved grassland). There is also an area with a classification of 4.1 (land capable of supporting mixed agriculture) along the alignment. The Alternative Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative Alignment passes through a smaller area of commercial forestry. Recreation The Alternative Alignment has the potential to compromise the recreational amenity of Inverness to John O' Groats National Cycle Route 1 and core paths in Culrain.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.	Proposals The Alternative Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings The potential contains a number of crossings mainly of forestry access tracks. It is noted that the potential crosses the forestry roads less often and with optimum arrangements (i.e. perpendicular to the access tracks) for Forestry vehicles crossing under the line. Environmental Design Almost all towers in this section are situated at elevations below 200m. Ground Conditions The potential eliminates a section of the steep climb from Invershin up onto the Carbisdale hillsides leading to reduced cross slopes making access and tower installation easier albeit that complex earthworks may still be required to install the line. Construction and Maintenance Routeing close to existing FLS forestry tracks will help with construction and future operational access to the line. Both options cover challenging topography possibly requiring significant earthworks and will require forestry clearance for construction and operational purposes. Proximity The potential does cross the historical battlefield however, no tower is situated within the battlefield boundary (oversailing of conductor only). The line routes close to existing Loch west of Carbisdale Castle but does not oversail.	Infrastructure Crossings The Alternative contains a number of crossings mainly of forestry access tracks. Crossings made are non-preferred with large sections of the route running parallel to existing access track posing possible clearance, construction, and operational constraints on the line. Environmental Design Almost all towers in this section are situated at elevations below 200m. Ground Conditions The Alternatives routes a steep climb from Invershin up onto the Carbisdale hillsides leading to large cross slopes being encountered and the possibility for complex earthworks to install the route. Construction and Maintenance Routeing close to existing FLS forestry tracks will help with construction and future operational access to the line. Both options cover challenging topography possibly requiring significant earthworks and will require forestry clearance for construction and operational purposes. Proximity The Alternative Alignment currently oversails a holiday property located in the FLS forestry. This oversail needs to be removed through adjustment of alignment but assuming a similar alignment to that presented, it is likely that a noise assessment on this section of the route would be required.
Economic	C1.2 Potential alignment has the lowest estimated capital and operational cost.	C1.2 Alternative capital and operational costs are greater than the lowest cost option C1.2 Potential but remain within 120% of the lowest cost.

Section D1.1

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment passes through areas of Grade 2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). It is assumed that the potential alignment can be microsited to avoid the Grade 2a Ancient Woodland (of semi-natural origin) west of Starthrusdale. Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish biodiversity list (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment may compromise Annex 1 habitats including areas of woodland and blanket bog. The Potential Alignment also crosses areas of Class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present in this section. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Potential Alignment also crosses a surface water Drinking Water Protected Area.	Designations The Alternative Alignment passes through areas of Grade 2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). It is assumed that the alternative alignment can be microsited to avoid the Grade 2a Ancient Woodland (of semi-natural origin) west of Starthrusdale. Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish biodiversity list (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment may compromise Annex 1 habitats including areas of woodland and blanket bog. The Alternative Alignment also crosses areas of Class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). The Alternative Alignment crosses a smaller extent of Class1 peatland. Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present in this section. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Alternative Alignment also crosses a surface water Drinking Water Protected Area.
Cultural Heritage	Designations The Potential Alignment has potential to compromise the designating features of the following scheduled monuments: SM6644 (Boath, three chambered cairns NE and NNE of Easter Ballone Farm) through changes to setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value. There is a cluster of non-designated assets south west of Strathrusdale and around Boath. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and designed landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.	Designations The Alternative Alignment has potential to compromise the designating features of the following scheduled monuments: SM6644 (Boath, three chambered cairns NE and NNE of Easter Ballone Farm) through changes to setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value. There is a cluster of non-designated assets south west of Strathrusdale and around Boath. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and designed landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings There are dispersed properties adjacent to the Potential Alignment and the closest is within c. 300 m of the alignment centreline (Glaick).	Proximity to Dwellings There are dispersed properties adjacent to the Alternative Alignment and the closest is within c. 300 m of the alignment centreline (Glaick).
Landscape and Visual	Designations	Designations

Topic	Potential Alignment	Alternative Alignment
	The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. The Potential Alignment passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area and may compromise the wild qualities of the designation. Visual This alignment option may compromise view or visual amenity from individual properties in Dounie and Strathrusdale and recreational interests such as core paths.	The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. The Potential Alignment passes in close proximity to the Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area and may compromise the wild qualities of the designation. Visual Potentially slightly more visible from visual receptors in Strathrusdale as would past on the east of a hillside.
Land Use	Agriculture The majority of the Potential Alignment has a land classification of 6.3 (land capable of use as rough grazings with low quality plants). There are also areas of 5.1 (land capable of use as improved grassland. Few problems with pasture establishment and maintenance and potential high yields), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain) and 5.3 (land capable of use as improved grassland. Pasture deteriorates quickly), as well as 4.1 (land capable of supporting mixed agriculture) along the alignment. The Potential Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment would require the removal of commercial forestry which may compromise the commercial returns from the forestry. There will be a requirement to undertake compensation to replace an equivalent area of trees. Recreation The Potential Alignment has the potential to compromise the recreational amenity of core paths, particularly in the region of Ardgay and fishing on the River Carron.	Agriculture The majority of the Alternative Alignment has a land classification of 6.3 (land capable of use as rough grazings with low quality plants). There are also areas of 5.1 (land capable of use as improved grassland. Few problems with pasture establishment and maintenance and potential high yields), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain) and 5.3 (land capable of use as improved grassland. Pasture deteriorates quickly), as well as 4.1 (land capable of supporting mixed agriculture) along the alignment. The Alternative Alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative Alignment would require the removal of commercial forestry which may compromise the commercial returns from the forestry. There will be a requirement to undertake compensation to replace an equivalent area of trees. Recreation The Alternative Alignment has the potential to compromise the recreational amenity of core paths, particularly in the region of Ardgay and fishing on the River Carron.
Planning	Proposals The Potential Alignment is consistent with other current third-party proposals and planning applications known to the planning system.	Proposals The Alternative Alignment is consistent with other current third-party proposals and planning applications known to the planning system.
Engineering	Infrastructure Crossings Both options follow a similar route in this corridor with no differentiators identified in the route corridors for infrastructure crossings. Environmental Design Both options follow a similar route in this corridor with no differentiators identified in the route corridors for Environmental Design. Ground Conditions The potential alignment routes through an area of peat near Braeantra. Construction and Maintenance This will increase complexity of access and foundation installation as well as increasing difficulty for future operational access (although it is noted that an angle tower will be located in the vicinity and therefore a permanent access will be required). Proximity Both options follow a similar route in this corridor with no differentiators identified in the route corridors for proximity.	Infrastructure Crossings Both options follow a similar route in this corridor with no differentiators identified in the route corridors for infrastructure crossings. Environmental Design Both options follow a similar route in this corridor with no differentiators identified in the route corridors for Environmental Design. Ground Conditions The potential alignment routes on a hillside with possibly significant cross slopes opposite Braeantra. Construction and Maintenance Significant cross slopes increase complexity of access and foundation installation as well as increasing difficulty for future operational access (although it is noted that an angle towers will be located in the vicinity and therefore a permanent access will be required). Proximity Both options follow a similar route in this corridor with no differentiators identified in the route corridors for proximity.

Topic	Potential Alignment	Alternative Alignment
Economic	D1.1 Potential capital and operational costs are greater than the lowest cost option D1.1 Alternative but remain within 120% of the lowest cost.	D1.1 Alternative alignment has the lowest estimated capital and operational Cost.

Section D1.2

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment cross the Allt nan Caorach SSSI. Whilst the Potential Alignment passes through areas of Ancient Woodland at locations near to Glen Glass and Fannyfield, it avoids an additional area of Grade 2a Ancient Woodland (of semi-natural origin) at Strath Sgitheach north of the Heights of Brae. Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment crosses localised areas of Class 1 and 2peatland and may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Potential Alignment crosses a surface water Drinking Water Protected Area.	Designations The Alternative Alignment cross the Allt nan Caorach SSSI. The Alternative Alignment passes through areas of Grade 2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin) at locations near to Glen Glass, Fannyfield and Strath Sgitheach Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment may compromise Annex 1 habitats including areas of woodland and blanket bog. The Alternative Alignment crosses localised areas of Class 1 peatland and may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Alternative Alignment also crosses a surface water Drinking Water Protected Area.
Cultural Heritage	Designations The Potential Alignment is to the north of SM10495 (Strath Sgitheach, settlement NW of Cnoc a'Mhuilinn) and SM4728 (Firth View, settlement 1300m NW of) which would reduce changes to setting compared to the Alternative Alignment. The Potential Alignment would also reduce the potential to impact the cluster of non-designated assets. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.	Designations The Alternative Alignment presents the potential to compromise the designating features of the following scheduled monuments: SM6644 (Boath, three chambered cairns NE and NNE of Easter Ballone Farm), SM4945 (Drumore, farmstead, field system, chambered cairn & cupmarks 600m W of), SM2396 (Balnacrae, chambered cairn 230m WSW of), SM10495 (Strath Sgitheach, settlement NW of Cnoc a'Mhuilinn), SM4728 (Firth View, settlement 1300m NW of), SM2312 (Heights of Brae, chambered cairn 375m NNW of Firth View) through changes to their setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets along the Alternative Alignment. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings There are no properties adjacent to the Potential Alignment. The closest is Highfield within the township of Bottacks, which is c. 850 m from the alignment centreline.	Proximity to Dwellings There are no properties adjacent to the Alternative Alignment. The closest is Highfield within the township of Bottacks, which is c. 600 m from the alignment centreline.

Topic	Potential Alignment	Alternative Alignment
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment has potential to compromise the view or visual amenity of residential properties in Glen Glass, Bottacks and Heights of Brae.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment has potential to compromise the view or visual amenity of residential properties in Glen Glass, Bottacks and Heights of Brae.
Land Use	Agriculture The Potential Alignment passes through areas with a classification of 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.1, 5.2 and 5.3 (land capable of use as improved grassland), and 6.3 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Potential Alignment would require the removal of commercial forestry which may compromise the commercial returns from the forestry so there will be a requirement to undertake compensation to replace an equivalent area of trees. Recreation The Potential Alignment avoids interaction with core paths and National Cycle Routes.	Agriculture The Alternative Alignment passes through areas with a classification of 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.1, 5.2 and 5.3 (land capable of use as improved grassland), and 6.3 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative Alignment would require the removal of commercial forestry which may compromise the commercial returns from the forestry so there will be a requirement to undertake compensation to replace an equivalent area of trees. Recreation The Alternative Alignment avoids interaction with core paths and National Cycle Routes.
Planning	Proposals The following live wind farm planning application is located adjacent to the Potential Alignment: • Abhainn Dubh Wind Farm	Proposals The following live wind farm planning application is located adjacent to the Alternative Alignment: • Abhainn Dubh Wind Farm
Engineering	Infrastructure Crossings Both options follow as similar route in this corridor with no differentiators identified in the route corridors for infrastructure crossings. Environmental Design Both options follow as similar route in this corridor with no differentiators identified in the route corridors for Environmental Design. Ground Conditions Both options follow as similar route in this corridor with no differentiators identified in the route corridors for ground conditions. Proximity Both options follow as similar route in this corridor with no differentiators identified in the route corridors for the proximity. Construction and Maintenance The Potential Alignment near the Heights of Brae routes further up onto the hill side possibly introducing significant cross slopes which may lead to more difficulty in installing accesses. However, the potential does not route near the scheduled monuments possibly decreasing construction restrictions or controls needs reducing construction complexity. Both options have factors which may increase construction and access difficulty but are considered feasible with no preferred identified from a construction standpoint.	Infrastructure Crossings Both options follow as similar route in this corridor with no differentiators identified in the route corridors for infrastructure crossings. Environmental Design Both options follow as similar route in this corridor with no differentiators identified in the route corridors for Environmental Design. Ground Conditions Both options follow as similar route in this corridor with no differentiators identified in the route corridors for ground conditions. Proximity Both options follow as similar route in this corridor with no differentiators identified in the route corridors for the proximity. Construction and Maintenance The Alternative Alignment routes through a number of non designated Canmore sites as well Scheduled Monuments. These will require additional controls and restrictions placed on the construction of the route increasing the difficulty for construction. The Alternateive Alignement does however route in flatter terrain providing a benefit from a terrain perspective when installing accesses to the towers. Both options have factors which may increase construction and access difficulty but are considered feasible with no preeferred identified from a construction standpoint.

Topic	Potential Alignment	Alternative Alignment
Economic	D1.2 Potential Alignment has the lowest estimated capital and operational cost.	D1.2 Alternative alignment capital and operational costs are greater than the lowest cost option D1.2 Alternative but remain within 120% of the lowest cost.

Section E1.1

Topic	Potential Alignment 1	Potential Alignment 2	Alternative Alignment 1	Alternative Alignment 2
Natural Heritage	Designations The Potential Alignment 1 passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across Potential Alignment 1. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats Potential Alignment 1 may compromise Annex 1 habitats including woodland and blanket bog. Ornithology There is an osprey nest to the west of the alignment option. Other Schedule I, BoCC or nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Large numbers of target species – pink-footed goose, red kite, whooper swan and goshawk – have been recorded flying over the Potential Alignment 1 at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Potential Alignment 2 passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across Potential Alignment 2. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats Potential Alignment 2 may compromise Annex 1 habitats including woodland and blanket bog. Ornithology There is the potential for barrier or collision impacts during operation. Large numbers of target species – pink-footed goose, red kite, golden eagle, whooper swan – have been recorded flying over the Potential Alignment 1 at risk height. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations Alternative Alignment 1 passes though a greater extent of Grade 1a/2a Ancient Woodland (of semi-natural origin) than Potential Alignments 1 and 2 and Alternative Alignment 2. Protected Species European and protected species are known to occur in the area and therefore may be present across Alternative Alignment 1. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats Alternative Alignment 1 may compromise Annex 1 habitats including woodland and blanket bog. Ornithology There is the potential for barrier or collision impacts during operation. There is a peregrine territory to the south of the alignment centreline. Large numbers of target species –red kite and white-tailed eagle – have been recorded flying over the Alternative Alignment 1 at risk height. Alternative Alignment 1 is also longer than Potential Alignment 1 and 2 so presents greater barrier and collision risk. Geology, Hydrology and Hydrogeology Alternative Alignment 1 passes in close proximity to a surface water Drinking Water Protected Area.	Designations The Alterative Alignment 2 passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across Alternative Alignment 2. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats Same as Potential Alignments 1 and 2 and also crosses a small area of Class 1 peatland. Ornithology There is the potential for barrier or collision impacts during operation. Large numbers of target species –red kite and golden eagle – have been recorded flying over parts of the Alternative Alignment 2 at risk height. Alternative Alignment 2 is also longer than Potential Alignment 1 and 2 so presents greater barrier or collision impacts. Geology, Hydrology and Hydrogeology Alternative Alignment 2 passes in closer proximity to a surface water Drinking Water Protected Area than Alternative Alignment 1.
Cultural Heritage	Designations Potential Alignment 1 passes through Fairburn Garden and Designed Landscape (GDL) and will likely compromise the designating features directly or indirectly through changes to its setting regarding their visibility affordances to and from the surrounding landscape. Potential Alignment 1 also presents the potential to compromise the designating features of the following	Designations Potential Alignment 2 passes through Fairburn GDL and will likely compromise the designating features directly or indirectly through changes to its setting regarding their visibility affordances to and from the surrounding landscape. Potential Alignment 2 also presents the potential to compromise the designating features of the following scheduled monuments: SM1672 (Knick Farril, fort,	Designations Alternative Alignment 1 passes through Fairburn Garden and Designed Landscape and will likely compromise the designating features directly or indirectly through changes to its setting regarding their visibility affordances to and from the surrounding landscape. Alternative Alignment 1 also presents the potential to compromise the designating features of the following	Designations Alternative Alignment 2 passes south of Fairburn Gardens and Designed Landcscape, however but would be visible on the hillside to the south potentially compromising the designating features indirectly through changes to their setting regarding their visibility affordances to and from the surrounding landscape.

Topic	Potential Alignment 1	Potential Alignment 2	Alternative Alignment 1	Alternative Alignment 2
	scheduled monuments: SM1667 (Achilty, henge, Contin), SM2397 (Preas Mairi, chambered cairn), SM2466 (Clachan Corrach, chambered cairn 375m E of Beallach Farm), SM1672 (Knock Farril, fort, Knockfarrel, Fodderty) SM13629 (Achnasoul, medieval earthwork 440m SSE of) and SM3987 (Loch Kinellan,crannog) through changes to their setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets Potential Alignment 1 is likely to impact upon nationally significant Category A listed Fairburn Tower. It also has the potential to impact the setting of the Category A listed Coul House.	Knockfarrel, Fodderty), SM1667 (Achilty, henge, Contin) and SM3987 (Loch Kinellan, crannog) through changes to its setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets in the western end of Fairburn Garden and Designed Landscape. Cultural Heritage Assets Potential Alignment 2 has the potential to impact the setting of the Category A listed Coul House.	scheduled monuments: SM11056 (Carn na Buaile, fort 750m NNW of Comrie, Contin) and SM1667 (Achilty, henge, Contin) through changes to its setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets in the western end of Fairburn GDL. Cultural Heritage Assets Alternative Alignment 1 is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building. Alternative Alignment 1 further removed from the Category A listed Fairburn Tower with larger areas of woodland in the intervening landscape so have a lesser potential for impact on its setting.	This option also presents the potential to compromise the designating features of the following scheduled monuments: SM11056 (Carn na Buaile, fort 750m NNW of Comrie, Contin) and SM1667 (Achilty, henge, Contin) through changes to its setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets Alternative Alignment 2 is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building. Alternative Alignment 2 further removed from the Category A listed Fairburn Tower with larger areas of woodland in the intervening landscape so have a lesser potential for impact on its setting.
People	Proximity to Dwellings There are dispersed properties adjacent to the alignment option and the closest is within c. 100 m of the alignment centreline. These include Fairburn Mains Cottages and Wester Balloan Cottage and East Mains of Fairburn Cottage.	Proximity to Dwellings There are dispersed properties adjacent to the alignment option and the closest (Bruaich Cottages) is within c. 100 m of the alignment centreline.	Proximity to Dwellings There are dispersed properties adjacent to the alignment option and the closest (Garrimatic at Scatwell) is within the alignment option.	Proximity to Dwellings There are dispersed properties adjacent to the alignment option and the closest (Scatwell Cottage, Allt Dubh and the Old Schoolhouse) are within the alignment option.
Landscape and Visual	Designations Potential Alignment 1 passes though the Fairburn Castle Garden and Designed Landscape and will likely compromise the special qualities of this nationally designated asset. Visual Potential Alignment 1 may compromise the view or visual amenity from individual properties including Mid Lodge within Contin and Fairburn Mains Cottages. Potential Alignment 1 passes closer to more densely populated areas including the communities of Contin and Strathpeffer and associated recreational areas.	Designations Potential Alignment 2 passes though the Fairburn Castle Garden and Designed Landscape and will likely compromise the special qualities of this nationally designated asset. Visual Potential Alignment 2 may compromise the view or visual amenity from individual properties including Mid Lodge within Contin and Fairburn Mains Cottages. Potential Alignment 1 passes closer to more densely populated areas including the	Designations Alternative Alignment 1 passes though the Fairburn Castle Garden and Designed Landscape and will likely compromise the special qualities of this nationally designated asset. Ben Wyvis Special Landscape Area and Wild land area is within 1 km to the north. Visual Alternative Alignment 1 may compromise the view or visual amenity from The Bungalow at Inchroach within Tarvie and Scatwell Cottage within Scatwell. Alternative Alignment 1 passes closer to the community of Tarvie.	Designations Alternative Alignment 2 presents the potential to pass adjacent to Fairburn Castle GDL. The Proposed Development may indirectly impact this nationally designated asset. Ben Wyvis Special Landscape Area and Wild Land Area is within 1 km to the north. Visual Alternative Alignment 2 may compromise the view or visual amenity from The Bungalow at Inchroach within Tarvie and Scatwell Cottage within Scatwell.
Land Use	Agriculture Potential Alignment 1 passes through areas with a classification of 4.1 (land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal), 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain), 5.3 (land capable of use as improved grassland. Pasture deteriorates	Agriculture Potential Alignment 2 passes through areas with a classification of 4.1 (land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal), 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain), 5.3 (land capable of use as improved grassland. Pasture deteriorates	Agriculture Alternative Alignment 1 passes through areas with a classification of 5.1 (land capable of use as improved grassland. Few problems with pasture establishment and maintenance and potential high yields), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain), 5.3 (land capable of use as improved grassland. Pasture deteriorates quickly), 6.2 (land capable of use as rough grazings with moderate quality plants), and 6.3 (land capable of use as	Agriculture Alternative Alignment 2 passes through areas with a classification of 5.1 (land capable of use as improved grassland. Few problems with pasture establishment and maintenance and potential high yields), 5.2 (land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain), 5.3 (land capable of use as improved grassland. Pasture deteriorates quickly), 6.2 (land capable of use as rough grazings with moderate quality plants), and 6.3 (land capable of use as

Topic	Potential Alignment 1	Potential Alignment 2	Alternative Alignment 1	Alternative Alignment 2
	quickly), 6.2 (land capable of use as rough grazings with moderate quality plants), and 6.3 (land capable of use as rough grazings with low quality plants) along the alignment. There is also an area with an Land Capability for Agriculture (LCA) classification of 3.1 (land capable of producing consistently high yields of a narrow range of crops and/ or moderate yields of a wider range. Short grass leys are common) within the alignment which is prime agricultural land (LCA 1, 2 and 3.1). <u>Forestry</u> Potential Alignment 1 would require the removal of commercial forestry which may compromise the commercial returns from the forestry. <u>Recreation</u> Potential Alignment 1 has the potential to compromise the recreational amenity of core paths and cycling and walking routes in Contin and Strathpeffer. The Potential Alignment crosses the River Conon, an area used for fishing.	quickly), 6.2 (land capable of use as rough grazings with moderate quality plants), and 6.3 (land capable of use as rough grazings with low quality plants) along the alignment. There is also an area with a Land Capability for Agriculture (LCA) classification of 3.1 (land capable of producing consistently high yields of a narrow range of crops and/ or moderate yields of a wider range. Short grass leys are common) within the alignment which is prime agricultural land (LCA 1, 2 and 3.1). <u>Forestry</u> Potential Alignment 2 would require the removal of commercial forestry which may compromise the commercial returns from the forestry. <u>Recreation</u> Potential Alignment 2 has the potential to compromise the recreational amenity of core paths and cycling and walking routes in Contin and Strathpeffer. The Potential Alignment crosses the River Conon, an area used for fishing.	rough grazings with low quality plants) along the alignment. There is also an area with a classification of 3.2 (land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common) within the alignment. <u>Forestry</u> Alternative Alignment 1 would require the removal of commercial forestry which may compromise the commercial returns from the forestry. <u>Recreation</u> Alternative Alignment 1 has the potential to compromise the recreational amenity of core paths in Tarvie. The Potential Alignment crosses the River Conon, an area used for fishing.	rough grazings with low quality plants) along the alignment. There is also an area with a classification of 3.2 (land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common) within the alignment. <u>Forestry</u> Alternative Alignment 2 Forestry appraisal is the same as Potential Alignments 1 and 2 and Alternative Alignment 1. <u>Recreation</u> Alternative Alignment 2 has the potential to compromise the recreational amenity of core paths in Tarvie. The Potential Alignment crosses the River Conon, an area used for fishing.
Planning	<u>Proposals</u> Potential Alignment 1 is consistent with other current third-party proposals and planning applications currently in the planning system.	<u>Proposals</u> Potential Alignment 2 is consistent with other current third-party proposals and planning applications currently in the planning system.	<u>Proposals</u> The following live wind farm planning applications are located within Alternative Alignment 1. • Fairburn Wind Farm Extension • Tarvie Wind Farm	<u>Proposals</u> The following live wind farm planning applications are located within Alternative Alignment 1. • Fairburn Wind Farm Extension • Tarvie Wind Farm
Engineering	<u>Infrastructure Crossings</u> All options cross a significant number of crossings including 2 river crossings, a railway crossing and a 132kV crossing. The complexity of the crossings is considered to be the same at this stage (scaffold crossing). <u>Environmental Design</u> The Potential Alignment 1 routes through the flood zones for the River Cannon and the Black water increasing construction difficulty for foundations and accesses. Flood zones may pose issue for future maintenance as accesses may be eroded by the flood zone. <u>Ground Conditions</u> The Potential Alignment 1 has the longest length of the alignment in agricultural land with gradual slopes making for largely ideal conditions for tower construction due to reduced	<u>Infrastructure Crossings</u> All options cross a significant number of crossings including 2 river crossings, a railway crossing and a 132kV crossing. The complexity of the crossings is considered to be the same at this stage (scaffold crossing). <u>Environmental Design</u> The Potential Alignment 2 reduces routeing the route through the flood zones by the River Cannon and Black Water. Flood zones may pose issue for future maintenance as accesses may be eroded by the flood zone. <u>Ground Conditions</u> The Potential Alignment 2 routes through agricultural fields with gradual slopes reducing ground risk and providing a benefit form a construction & maintenance perspective (ease of access). Where the potential enters the Garden	<u>Infrastructure Crossings</u> All options cross a significant number of crossings including 2 river crossings, a railway crossing and a 132kV crossing. The complexity of the crossings is considered to be the same at this stage (scaffold crossing). <u>Environmental Design</u> The Alternative Alignment 1 routes via Loch Garve and Little Scatwell. This in turn means a fair proportion of the line is above 200m in altitude (approx. 12%). The route does enter the flood zone present near Little Scatwell where the line crosses the River Conon. Flood zones may pose issue for future maintenance as accesses may be eroded by the flood zone. <u>Ground Conditions</u> The route is located in more remote regions with large cross slopes making access and installation of towers on the cross	<u>Infrastructure Crossings</u> All options cross a significant number of crossings including 2 river crossings, a railway crossing and a 132kV crossing. The complexity of the crossings is considered to be the same at this stage (scaffold crossing). <u>Environmental Design</u> The Alternative Alignment 2 routes via Loch Garve and Little Scatwell. This in turn means a fair proportion of the line is above 200m in altitude (approx. 18%). The route does enter the flood zone present near Little Scatwell where the line crosses the River Conon. Flood zones may pose issue for future maintenance as accesses may be eroded by the flood zone. <u>Ground Conditions</u>

Topic	Potential Alignment 1	Potential Alignment 2	Alternative Alignment 1	Alternative Alignment 2
	scope of levelling required and shortest length of accesses required. Construction and Maintenance Routes in agricultural land with a number of public roads in the vicinity of the line. Both construction and operational accesses will benefit from the public road access and existing tracks. Proximity This option is within noise assessment limits of a number of properties within the Fairburn estate and may result in further noise issues arising from the line.	Designated Landscape at Muirton wood, slopes observed are steeper, possibly requiring hillside extensions. Construction and Maintenance Routes in agricultural land with a number of public roads in the vicinity of the line. Both construction and operational accesses will benefit from the public road access and existing tracks. Where the alignment enters Muirton Wood, access design will have to limit where possible additional felling to provide access to the route. Proximity Potential Alignment 2 reduces significantly the number of properties requiring noise assessment with the potential for all noise assessments to be eliminated. Furthermore, the Potential Alignment 2 in Fairburn GDL presents an opportunity to screen a portion of the line.	slope difficult. In particular, where the line runs parallel to Loch Achonachie where cross slopes of 49% have been observed in the ground level. Construction and Maintenance Route in remote regions and would require significant enabling works in comparison. Proximity The Alternative Alignment 1 option reduces the number of properties requiring noise assessments. However, the line passes through the proposed Tarvie wind farm and does not meet the minimum exclusion zone of 450m from a turbine position.	The route is located in more remote regions with large cross slopes making access and installation of towers on the cross slope difficult. This Alternative Alignment 2 is preferable to Alternative Alternative 1 from a terrain perspective as the line climbs a more gradual slope when running parallel to Loch Achonachie however, it is noted that a maximum slope of 42% has been observed along this alignment. Construction and Maintenance Route in remote regions and would require significant enabling works in comparison. Proximity Alternative Alignment 2 option reduces the number of properties requiring noise assessment. However, the line passes through the proposed Tarvie wind farm and does not meet the minimum exclusion zone of 450m from a turbine position.
Economic	E1.1 Potential Alignment 1 has the lowest estimated capital and operational cost.	E1.1 Potential Alignment 2 capital and operational costs are greater than the lowest cost option E1.1 Potential Alignment 1 but remain within 120% of the lowest cost.	E1.1 Alternative Alignment 1 capital and operational costs are greater than the lowest cost option E1.1 Potential Alignment 1 but remain within 120% of the lowest cost.	E1.1 Alternative Alignment 2 capital and operational costs are greater than the lowest cost option E1.1 Potential Alignment 1 but remain within 120% of the lowest cost.

Section E1.2

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment may compromise Annex 1 habitats including woodland and blanket bog. The Potential Alignment also crosses a small area of Class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Potential Alignment may compromise the quality and/or quantity of surface waters or groundwaters which provide public supply at local or regional importance.	Designations The Alternative Alignment passes through an additional area of Grade 2a Ancient Woodland (of semi-natural origin) south west of Farley. Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment may compromise Annex 1 habitats including woodland and blanket bog. The Potential Alignment also crosses a small area of Class 1 and 2 peatland which may compromise the integrity of Groundwater Dependent Terrestrial Ecosystems (GWDTE). Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques. The Alternative Alignment may compromise the quality and/or quantity of surface waters or groundwaters which provide public supply at local or regional importance.
Cultural Heritage	Designations The Potential Alignment may compromise the designating features of the following scheduled monuments: SM2422 (Dun Garbhlaich, fort, Kilmorack), SM4979 (Dun Mor, fort), SM13523 (Urchany, barrow 595m SW of) and SM2424 (Dun a Chliabhain, fort) SM5212 (Dun Fhamhair, fort) through changes to their setting. There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. There is a cluster of non-designated assets to the west of Farley. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.	Designations Alterative Alignment would be closer to SM5212 (Dun Fhamhair, fort) and the cluster of non-designated assets to the west of Farley. Cultural Heritage Assets The Alterative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory Garden and Designed Landscape (GDL), setting of an A listed building or directly disturb a B/C listed building.
People	Proximity to Dwellings There are no properties adjacent to the Potential Alignment. The closest is Moalnaceap Cottage at Crask of Aigas which is c. 500 m from the alignment centre line.	Proximity to Dwellings There are no properties adjacent to the Alternative Alignment. The closest is Moalnaceap Cottage at Crask of Aigas which is c. 500 m from the alignment centre line.

Topic	Potential Alignment	Alternative Alignment
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment may compromise the view or visual amenity from individual properties and core paths in Beauly, as well as along sections of the A831.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment would be further east and have a greater potential to compromise the view or visual amenity from properties in Torgormack and Farley.
Land Use	Agriculture The Potential Alignment passes through areas with a classification of 4.1 (land capable of supporting mixed agriculture), 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.1, 5.2 and 5.3 (land capable of use as improved grassland), and 6.2 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The alignment option avoids interaction with areas of commercial forestry. Recreation The Potential Alignment avoids interaction with recreational amenity features such as core paths and national cycle networks. The Potential Alignment also cross the River Beauly, an area used for fishing.	Agriculture The Alternative Alignment passes through areas with a classification of 4.1 (land capable of supporting mixed agriculture), 4.2 (land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops), 5.1, 5.2 and 5.3 (land capable of use as improved grassland), and 6.2 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative alignment option avoids interaction with areas of commercial forestry. Recreation The Alternative Alignment avoids interaction with recreational amenity features such as core paths and national cycle networks. The Alternative Alignment also cross the River Beauly, an area used for fishing.
Planning	Proposals The Potential Alignment is consistent with other third-party proposals and planning applications known in the planning system.	Proposals The Alternative Alignment is consistent with other third-party proposals and planning applications known in the planning system.
Engineering	Infrastructure Crossings Both options cross Beauly- Deany 132kV Overhead line. In terms of complexity neither option have a perceived benefit for the Beauly - Deany 132kV crossing apart from the potential crossing of the circuits for the potential being slightly further away from existing houses. Environmental Design Both alignments result in the need for sighting towers at elevation >200m. Ground Conditions Both options cover significant topographical constraints. The potential in the area of Breakachy farm goes into slightly more challenging terrain to climb round the back of Breakachy hill. Construction and Maintenance E1.2 potential routes round the back of Breakachy Hill taking the alignment into a more remote region further away from existing access tracks. Both the potenrial and alternate alignment have challenging terrain whcih main increase the complexty of the construction and maintenance of the route. Both options factors which may increase construction and access difficulty but are considered feasible with no preferred identified from a construction standpoint.	Infrastructure Crossings Both options cross Beauly- Deany 132kV Overhead line. In terms of complexity neither option have a perceived benefit for the Beauly - Deany 132kV crossing apart from the potential crossing of the circuits for the potential being slightly further away from existing houses. Environmental Design Both alignments result in the need for sighting towers at elevation >200m. Ground Conditions The terrain between Loch Nam Bonnach and Torgormack sees both alignments sited at >200m just before the crest of the hill. The peaks appear to have rocky outcrops which may increase difficulty of excavations however, both alignments share this difficulty. Construction and Maintenance The alternate alignment does route closer to existing access tracks making the potential access rotues to the line easier. Both the potenrial and alternate alignment have challenging terrain whcih main increase the complexty of the construction and maintenance of the route. Both options factors which may increase construction and access difficulty but are considered feasible with no preeferred identified from a construction standpoint.

Topic	Potential Alignment	Alternative Alignment
	Proximity The potential offers a benefit to the communities of Torgormack by sighting the towers round the back of Breackachy Hill increasing the distance from the line to properties.	Proximity The Alternative line is situated closer to Torgormack and Breakachy farm however not within distance that noise assessment would be required.
Economic	E1.2 Potential capital and operational costs are greater than the lowest cost option E1.2 Alternative but remain within 120% of the lowest cost.	E1.2 Alternative alignment has the lowest estimated capital and operational cost.

Section E1.3

Topic	Potential Alignment	Alternative Alignment
Natural Heritage	Designations The Potential Alignment passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across the Potential Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Potential Alignment may compromise Annex 1 habitats including areas of woodland. Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.	Designations The Alternative Alignment passes through areas of Grade 1a/2a Ancient Woodland (of semi-natural origin) and Grade 2b (of long-established areas of plantation origin). Protected Species European and protected species are known to occur in the area and therefore may be present across the Alternative Alignment. European protected species include water vole, otter, wildcat and bat species. Protected species include red squirrel, pine marten, badger and adder. Scottish Biodiversity List (SBL) species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. For the purposes of assessment, as surveys are being progressed, it is assumed that best practice construction techniques will avoid significant impacts to European and nationally protected species. Habitats The Alternative Alignment may compromise Annex 1 habitats including areas of woodland. Ornithology Schedule I, Birds of Conservation Concern (BoCC) and nesting bird species are present. The application of the SSEN Transmission Species Protection Plan (SPP) will limit the potential for impact during construction. There is the potential for barrier or collision impacts during operation. Geology, Hydrology and Hydrogeology There is potential to result in impacts to hydrological receptors during construction and this will be mitigated through best practice construction techniques.
Cultural Heritage	Designations The Potential Alignment would avoid any direct interaction with designating features (World Heritage Site (WHS), Scheduled Monuments (SM), Garden and Designed Landscapes (GDL)). There is the potential to remove wholly, or in part, non-designated assets with significant archaeological value, as a result of the alignment option. Cultural Heritage Assets The Potential Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building.	Designations Largely the same as the Potential Alignment. The Alternative Alignment directly oversails Dun Fionn, a non-designated prehistoric fort. Cultural Heritage Assets The Alternative Alignment is unlikely to compromise the integrity of a conservation area, Non-inventory GDL, setting of an A listed building or directly disturb a B/C listed building..
People	Proximity to Dwellings There are no properties adjacent to the Potential Alignment The closest is within c. 1 km from the alignment centreline at Crask of Aigas (Moalnaceap Cottage).	Proximity to Dwellings There are no properties adjacent to the Alternative Alignment The closest is within c. 650 m from the alignment centreline at Crask of Aigas (Moalnaceap Cottage).
Landscape and Visual	Designations The Potential Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Potential Alignment may compromise the view or visual amenity from individual properties and core paths in Beauly, as well as along sections of the A831.	Designations The Alternative Alignment is not within any Special Landscape Areas, Wild Land Areas, National Scenic Areas or Garden and Designed Landscapes. Visual The Alternative Alignment may compromise the view or visual amenity from individual properties and core paths in Beauly, as well as along sections of the A831.

Topic	Potential Alignment	Alternative Alignment
Land Use	Agriculture The Potential Alignment passes through areas with a classification of 4.1 (land capable of supporting mixed agriculture), 5.1, (land capable of use as improved grassland), and 6.3 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The alignment option avoids interaction with areas of commercial forestry. Recreation The Potential Alignment avoids interaction with recreational amenity features such as core paths and national cycle networks. The Potential Alignment also cross the River Beauly, an area used for fishing.	Agriculture The Alternative Alignment passes through areas with a classification of 4.1 (land capable of supporting mixed agriculture), 5.1, (land capable of use as improved grassland), and 6.3 (land capable of supporting only rough grazing). The alignment avoids interaction with prime agricultural land (Land Capability for Agriculture (LCA) 1, 2 and 3.1). Forestry The Alternative alignment option avoids interaction with areas of commercial forestry. Recreation The Alternative Alignment avoids interaction with recreational amenity features such as core paths and national cycle networks. The Alternative Alignment also cross the River Beauly, an area used for fishing.
Planning	Proposals The Potential Alignment is consistent with other third-party proposals and planning applications known in the planning system.	Proposals The Alternative Alignment is consistent with other third-party proposals and planning applications known in the planning system.
Engineering	Infrastructure Crossings Both routes cross the A831 road and River Beauly crossing (gorge crossing). The E1.3 Potential Alignment gorge crossing is the preferred position for crossing the gorge. The E1.3 Potential Alignment allows positioning of the tower just before the crest of the hill as well as removing an angle from the line. Environmental Design Both alignments result in the need for sighting towers at elevation >200m just before the gorge crossing with the gorge crossing towers potentially visible from Fanellan substation. No significant differentiator is identified between the options. Ground Conditions Both options cover significant topographical constraints. However, as alluded to already the gorge crossing tower positions for the E1.3 Potential Alignment are considered to make best use of the topography for crossing the gorge. Furthermore, the terrain East of the River Beauly is more consistent with an observed gradual slope up to the Fanellan substation entry making for easier accesses and clearance of the existing forestry. Construction and Maintenance E1.3 Potential Alignment, East of river Beauly, routes on a continuous slope up towards Fanellan substation which may make it possible for the access to be routed in parallel with the line. The OHL entry into Fanellan substation has a better crossing of the proposed access track into the susbtation benefitting future operational access to the substation and the OHL. Proximity The Potential Alignment oversails Canmore sites but eliminates oversail of the fishing loch located behind Fanallen substation. The potential alignment is therefore perceived to be less constrained than the Alternative Alignment for Proximity.	Infrastructure Crossings Both routes cross the A831 road and River Beauly crossing (gorge crossing). The E1.3 Alternative Alignment gorge crossing is non preferred for crossing the gorge as the alignment does not make best use of the topography to achieve clearances and standoff from the gorge slope. Environmental Design Both alignments result in the need for sighting towers at elevation >200m just before the gorge crossing with the gorge crossing towers potentially visible from Fanellan substation. No significant differentiator is identified between the options. Ground Conditions Terrain East of the River Beauly is undulating under the line making access to the route difficult without significant earthworks and clearance of the existing forestry. Construction and Maintenance iThe Alternative Alignment, East of the river Beauly, routes over undulating terrain with the possibility for complex accesses to be installed to access the towers. Installation over the access road into the sub is non preferred as we cross over a bellmouth possibly impacting future operational access to the substation. Proximity The Alternate Alignment oversails Canmore sites and a fishing loch located behind Fanellan substation.
Economic	E1.3 Potential Alignment has the lowest estimated capital and operational cost.	E1.3 Alternative Alignment capital and operational costs are greater than the lowest cost option E1.3 Potential Alignment but remain within 120% of the lowest cost.