

Consultation Document - Alignment
Selection
Abhainn Dubh Wind Farm Connection
May 2025

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GLOSSARY

Term	Definition
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.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
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.
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.
Environmental Impact Assessment (EIA)	A formal process set down in The Electricity Works (EIA) (Scotland) Regulations 2000 (as amended in 2008) used to systematically identify, predict and assess the likely significant environmental impacts of a proposed project or development.
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.
Habitat	Term most accurately meaning the place in which a species lives but also used to describe plant communities or agglomerations of plant communities.
Kilovolt (kV)	One thousand volts.
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(s).
Micrositing	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 Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of exceptional scenic value.
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.
Riparian Woodland	Natural home for plants and animals occurring in a thin strip of land bordering a stream or river.



Term	Definition
+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.
Scheduled Monument	A monument which has been scheduled by the Scottish Ministers as being of national importance under the terms of the 'Ancient Monuments and Archaeological Areas Act 1979'.
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.
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 seminatural habitats and native species across Britain.
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 The Highland Council 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 (Directive 74/409/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.
Terminal Structure	A structure (tower or pole) required where the line terminates either at a substation or at the beginning and end of an underground cable section.
The National Grid	The electricity transmission network in Great Britain.
Volts	The international unit of electric potential and electromotive force.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and SSEN Transmission.
Wild Land Area (WLA)	Those areas comprising the greatest and most extensive areas of wild characteristics within Scotland.



PREFACE

This Consultation Document has been prepared by ERM on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission), to seek comments from all interested parties on the Abhainn Dubh Wind Farm Connection project.

The Consultation Document is available online at:

https://www.ssen-transmission.co.uk/abhainn-dubh-wind-farm-connection

Public consultation events detailing the proposals described in this document will be held at the following time and location:

Tuesday 24th June 2025, Evanton Jubilee Hall, 3pm – 7pm

Comments on this document should be sent to:

Lisa Marchi

Community Liaison Manager

SSEN Transmission

10 Henderson Road, Inverness IV1 1SA

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Mobile: 07825 015 507

All comments are requested by 25th July 2025.



EXECUTIVE SUMMARY

SSEN Transmission is proposing to construct and operate a 132 kilovolts (kV) overhead line (OHL) to connect the proposed Abhainn Dubh Wind Farm to the existing Fyrish 132 kV Substation. Abhainn Dubh Ltd., E Power Ltd. and Invis Energy are the developers for Abhainn Dubh Wind Farm, which was submitted for Section 36 planning consent on 19th May 2023. The approximately 75 megawatts (MW) wind farm requires a single circuit 132 kV connection from the Abhainn Dubh Wind Farm Substation compound, terminating at the existing Fyrish Substation.

Six alignment options have been identified to achieve the connection, and these have been appraised against environmental, engineering and economic criteria. This Consultation Document invites comments from all interested parties on the six alignment options under consideration.

The key environmental considerations are impacts on the cultural heritage assets of Foulis Castle, Novar Garen Designed Landscape and the Fyrish Monument, collision and barrier effects on protected bird species and landscape and visual impacts. The key engineering considerations are hilly terrain, access challenges, existing infrastructure and potential presence of peat.

The overall preferred alignment option for the connection between the proposed Abhainn Dubh Wind Farm to the existing Fyrish 132 kV Substation is alignment option 1.3 in the eastern section and alignment option 2.3 in the western section. This conclusion is achieved though consideration of environmental, engineering and economic appraisals of all alignment options.

Face to face consultation events will be held at Evanton Jubilee Hall on Tuesday 24th June between 3pm and 7pm. Meetings will be arranged with statutory and other stakeholders. The responses received, and those sought from statutory consultees and other key stakeholders will inform further consideration and design of the preferred alignment leading to the identification of a proposed alignment to take forward to the consenting stages.

Please submit your comments to Lisa Marchi, Community Liaison Manager, SSEN Transmission, 10 Henderson Road, Inverness IV1 1SA (lisa.marchi@sse.com).

All comments are requested by 25th July 2025.



1. INTRODUCTION

1.1 Purpose of Document

SSEN Transmission is proposing to construct and operate a 132 kV OHL and UGC connection to connect proposed Abhainn Dubh Wind Farm to the existing Fyrish 132 kV Substation (the 'Proposed Development'). This Consultation Document invites comments from all interested parties on the six alignment options under consideration (see **Figure 1.1, Appendix C**).

This document presents the findings of an environmental, engineering and cost appraisal of the six alignment options identified by SSEN Transmission and describes the process by which a preferred alignment for the Proposed Development has been selected.

1.2 Document Structure

This Consultation Document comprises the following sections:

- Section 1: Introduction describes the purpose of the document;
- Section 2: The proposals describes the Proposed Development need and the Proposed Development overview;
- Section 3: Alignment selection process describes the process for selecting the alignment options and preferred alignment, based on environmental, engineering and economic considerations:
- Section 4: Description of alignments describes the identification of alignment options and provides a summary of each alignment (1.1, 1.2, 1.3, 2.1, 2.2, and 2.3);
- Section 5: Comparative appraisal a summary of the environmental, engineering and economic topics;
- Section 6: Selection of preferred alignment a comparative analysis summary and a description of the preferred alignment; and
- Section 7: Consultation on the proposals invites comments on the preferred option process, the identification of preferred alignment and next steps.



2. THE PROPOSALS

2.1 The Need for the Proposed Development

Scottish Hydro Electric Transmission plc, operating as SSEN Transmission, holds a licence under the Electricity Act 1989 to develop and maintain an efficient, coordinated, and economical system of electricity transmission in the north of Scotland and its remote islands.

To support the continued growth of onshore and offshore renewables across the north of Scotland and contribute to the country's drive towards Net Zero, further investment in network infrastructure is necessary. This investment will enable the connection of renewable power sources and facilitate the transportation of electricity from these sources to areas of demand across the country.

The developer of Abhainn Dubh Wind Farm has submitted a Planning Application under Section 36 of the Electricity Act 1989 for a wind farm with a capacity of approximately 75 MW, which has a contracted connection date of 2029¹. SSEN Transmission has a statutory duty under Schedule 9 of the Electricity Act 1989 to connect this new development to the transmission network by the contracted connection date.

2.2 Proposed Development Overview

The Abhainn Dubh Renewable Energy Development is an onshore wind project comprising up to 13 wind turbines and associated infrastructure, located in the Highlands approximately 4.5 km west of Evanton, 7 km north-east of Strathpeffer, and 4 km north of Dingwall.

The proposed Abhainn Dubh Wind Farm Connection (the 'Proposed Development') comprises approximately 10.2 km of overhead line (OHL) and underground cable (UGC) sections connecting the proposed Abhainn Dubh Wind Farm Substation to the existing Fyrish 132 kV Substation (**Figure 2.1**, **Appendix C**).

The Proposed Development involves the following elements:

- OHL Section: Single circuit 132 kV supported by trident wood 'H' poles.
- UGC Sections: They will be required from the proposed Abhainn Dubh Wind Farm Substation to the west of Swordale Hill and to connect to the existing Fyrish Substation from Cnoc Thuradain.
- Rationalisation and Crossings: Adjustments to the existing transmission network.
- Associated Ancillary Works: Additional necessary works related to the Proposed Development.

2.3 Alternative Options Considered

The Proposed Development design was originally proposed to consist predominantly of OHL, with approximately 8.4 km of OHL and only 1 km of UGC intended to connect at each substation. However, through option appraisals, the Proposed Development has been revised to include a longer section of UGC. This change addresses visual and environmental considerations including the consideration of the close proximity of the existing infrastructure in the area and mitigates impacts on cultural heritage sites nearby

¹ Energy Consents Unit (2024) Application Details, [online] Available at: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004732 [Accessed: January 2025]



and sensitive natural habitats. These constraints are detailed in the detailed RAG Assessment (**Appendix A**).

This alteration to the original proposed design ensures that the Proposed Development balances technical and engineering requirements with the need to protect and preserve the natural, cultural, and recreational values of the area, while also aligning better with national, regional, and local planning policies aimed at protecting the natural and built environments.

2.3.1 Preferred Technology Solution

Overhead Lines

Trident 'H' wood poles will carry a single circuit, with three conductors supported from either, glass, porcelain, or composite insulators attached to the horizontal cross arms on both sides of each pole. An ADSS shall be strung approximately 3 m below cross arm below the conductors.

Underground Cables

A set of three cables, arranged in trefoil installation, of 1600 mm² Aluminium core, cross-linked XLPE insulation, Smooth Welded Aluminium Sheath cables is proposed as the most appropriate option for the UGC on the Proposed Development matching the proposed OHL rating. Cable trenching is likely to be the method of cable laying, where sections of trench are opened, cable laid inside PVC ducts and then backfilled in a rolling fashion, avoiding the need to open long lengths of trench at once. The proposed trench size would be approximately 4.6 m wide with a working width of approximately 25 m and an operation corridor of 15 m.

Location of the trench will preferably be adjacent to existing access tracks or through forestry rides / fire breaks to reduce impacts on the surrounding habitats.

2.4 Proposals Overview

For the OHL section, the Proposed Development will use trident wood 'H' poles with a typical height ranging between 10 to 18 m, with an average span of 75 to 100 m. The OHL will consist of suspension poles, angle/tension poles, failure containment poles, and terminal poles. Typical pole design is shown in Error! Reference source not found.

The size and spacing of the poles are influenced by factors such as altitude, weather conditions, and the topography of the alignment. Poles may be placed closer together in areas with higher altitudes to withstand stronger winds, ice, and other weather events. In certain locations, taller poles may be necessary to maintain the required ground clearance, especially at road, river, and rail crossings.



Plate 2.1 Trident Wood 'H' Pole Example



2.4.1 Construction Activities

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

- Establishment of suitable laydown areas for material and installation of temporary track solutions as necessary;
- Establishment of temporary construction compounds/welfare units;
- Upgrades to existing tracks and potentially new tracks where required;
- Delivery of structures and materials to site;
- Assembly and erection of wood pole structures and stays; and
- Stringing of conductors using hauling ropes and winches.

Installation of the wood poles would involve the following tasks:

- Excavation of a suitable area for the wood poles, and backfilling after installation of the pole;
- In some pole locations, it may be necessary to add imported hardcore backfill around the pole foundations to provide additional stability in areas where the natural sub soils have poor compaction qualities;
- In some pole locations where shallow bedrock is present, it may be necessary to break or remove rock to accommodate pole foundations;
- Conductors would be installed on the wood poles using full tension stringing to prevent the conductor coming into contact with the ground; and
- Remedial works would be carried out to reinstate the immediate vicinity of the structure, and any ground disturbed, to pre-existing use.

Installation of the UGC infrastructure would require (to be confirmed if needed):

- Establish a working corridor centred on the cable centreline;
- Installation of an access haul road and bridges where/if required;
- Excavate a trench up to 3 m in depth and 4.6 m wide, widening through benching and battering where stability and safety concerns arise;
- Clear out all materials likely to damage cable ducts, e.g. clods, rocks, stones and organic debris, and employ use of pumps to remove any water;
- Installation of ducting within the trench, surrounded by engineered backfill for protection, with protection tile and warning tape placed above the cable line, reinstatement to sub-soil level;
- Excavation and formation of power cable joint bays with above ground electrical link pillars and associated demarcation; reinstate excavated surface layers in reverse order;
- Transportation of and installation of power cable;
- Mobilisation of jointing containers and jointing of power cable;
- Reinstatement of joint bays and installation of fencing at link pillar locations; and
- Reinstate excavated surface layers in reverse order.

2.4.2 Forestry Removal

Any woodland removal which may be required prior to the construction work will be identified and described after a proposed alignment has been identified. Any removal of sections of commercial forest through a management felling plan would be undertaken in consultation with the affected landowners, primarily Novar Estate. After felling, any timber



removed that is commercially viable would be sold and the remaining forest material would be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.

An operational corridor would be required to enable the safe operation and maintenance of the Proposed Development. This will vary depending on the type of woodland (based on species present) in proximity to the Proposed Development. In areas of native woodland, it is usually possible to provide a narrower corridor due to a reduced risk of trees falling on the Proposed Development.

2.4.3 Access During Construction

The access strategy during construction will be detailed in the EIA Report and the Section 37 consent application, with further refinements during the design phase. The approach includes upgrading existing access tracks where possible and constructing new ones as needed. New tracks with a clear long-term need will remain in place, while infrastructure in suitable ground conditions, like dry, level pasture, may be built without dedicated access tracks.

Most access will be achieved by upgrading existing tracks and installing new temporary ones in sensitive areas, considering gradients and ground conditions to minimize environmental impact. For new access tracks, a geotextile layer will typically be laid down, followed by approximately 200 mm of crushed and compacted stone. In areas with peat, floating stone tracks or cut-and-fill methods may be used, if feasible.

2.4.4 Programme

It is anticipated that construction of the Proposed Development would take place over an 18 to 22 months period, following the granting of consents, although detailed programming of works would be the responsibility of the Principal Contractor in agreement with SSEN Transmission. The programme for the Proposed Development is currently under development, an indicative programme is as follows:

Construction Start: July 2027; and

Operation: May 2029.



3. ALIGNMENT SELECTION PROCESS

3.1 Guidance Document

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'². This guidance considers within it the Holford Rules³, which sets out a hierarchical approach to routeing and alignment 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 Proposed Development.

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 procedures note that, depending on the scale of the project or character of the area, it may be possible to combine Stages 1 and 2. In this case, given the relatively short distance and small study area (**Figure 2.1**, **Appendix C**), Stages 1 and 2 have been combined. In practice, this has been achieved by moving from Stage 0 to Stage 2, with no evaluation of alternative corridors completed.

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 Proposed Development is currently at **Stage 3 Alignment Selection**.

In consideration of these principles, the method of identifying an environmentally preferred alignment option in this study has involved the following key tasks:

- Identification of the baseline situation;
- Identification of alternative alignment options;
- · Environmental analysis of alignment options; and
- · Identification of a potential alignment.

² SSEN Transmission (September 2020). Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above. Revision 2.

³ Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines with NGC 1992 and SHETL 2003 Notes.



3.2 Area of Search

The extent of the area of search (hereafter the 'study area'), was originally defined by the proposed route identified at the end of Stage 2: Route Selection. **Figure 2.1** (**Appendix C**) illustrates the proposed route.

The study area was further developed to be sufficiently broad to allow for a range of connection alignment options to be considered, responding to environmental, technical, and economic considerations. The alignment options within the study area have been developed and assessed to identify potential environmental impacts ahead of selecting an overall preferred alignment option to take further.

The study area applied for natural heritage features was:

- 15 km for international designations (however, during technical assessment, consideration is sometimes given to designated features beyond this due to potential connectivity);
- 10 km for national designations;
- 2 km for local designations;
- 4 km for landscape and visual receptors;
- 2 km for cultural heritage assets; and
- 1 km for hydrology receptors.

3.3 Baseline Conditions

The following information sources have informed the desk-based baseline study to identify potential environmental constraints within and adjacent to the alignment options.

The desktop survey has involved the following:

- Identification of environmental designated sites and other constraints, utilising GIS datasets available via NatureScot SiteLink⁴ and other sources. These include:
 - Special Areas of Conservation (SAC);
 - Special Protection Areas (SPA);
 - Local Nature Reserves (LNR);
 - National Nature Reserves (NNR);
 - Proposed Special Protection Areas (pSPA);
 - Sites of Special Scientific Interest (SSSI);
 - National Park;
 - National Scenic Area (NSA);
 - Wild Land Areas (WLA);
 - Geological Conservation Review Sites (GCR);
 - Royal Society for the Protection of Birds (RSPB) reserves;
 - Land Capability for Agriculture⁵;
 - Carbon-rich soil, deep peat and priority peatland habitats⁶; and

 $^{^{4}\ \}text{Nature Scot}\ (2024)\ \text{SiteLink Home [online] Available at: https://sitelink.nature.scot/home [Accessed: January 2025]}$

⁵ The Scottish Government (2024) Scotland's Soils [online] Available at: https://map.environment.gov.scot/Soil_maps/?layer=5 [Accessed: January 2025]

⁶ NatureScot (2024) Carbon and peatland 2016 map [online] Available at: https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/ [Accessed: January 2025]



- Areas at risk of flooding⁷.
- Identification of archaeological designations and other recorded sites, utilising GIS datasets available via Historic Environment Scotland Data Services⁸, Canmore and local Historic Environment Scotland teams, including:
 - World Heritage Sites (WHS);
 - Scheduled Monuments;
 - Category A, B and C Listed Buildings;
 - Gardens and Designed Landscapes (GDL);
 - Conservation Areas;
 - Registered Battlefields;
 - Canmore data (non-designated); and
 - Historic Environment Records (non-designated).
- Review of the Highland-wide Council Local Development Plan 2012⁹ to identify local
 policies and further environmental constraints and opportunities, such as Local Nature
 Conservation Sites (LNCS), core paths or other locations important to the public;
- Review of landscape character assessments of relevance to the study area;
- Review of Ordnance Survey (OS) mapping (1:50,000 and 1:25,000) and online GIS
 data sources from OS Open Data⁸ and aerial photography (where available) to identify
 other potential constraints such as settlement, properties, walking routes, cycling routes
 etc.; and
- Review of other local information through online and published media such as tourism sites.

Vantage point surveys are currently ongoing to understand the interaction between birds and potential OHL along the preferred alignment.

Technical studies are also being undertaken to understand the site-specific conditions for pole locations and cable route. These studies will be used to inform the EIA Report.

3.4 Alignment Identification and Selection Methods

Alignment options were identified following site appraisals, taking into account the most notable constraints identified during the baseline studies. Considerations have included a review of the steps outlined in the Holford Rules and SSEN Transmission plc's approach to routeing. In summary, the following has been taken into account as far as is practicable at this stage and will be considered in more detail during Stage 4 (EIA):

- Avoid if possible major areas of highest amenity value (including those covered by national and international designations and other sensitive landscapes);
- Avoid by deviation, smaller areas of high amenity value;
- Try to avoid sharp changes of direction and reduce the number of larger angle towers required;

⁷ SEPA (2024) Flood Maps [online] Available at:

https://scottishepa.maps.arcgis.com/apps/webappviewer/index.html?id=3098bbef089c4dd79e5344a0e1e7c91c&showLayers=FloodMapsBasic_2743;FloodMapsBasic_2743_0;FloodMapsBasic_2743_1;FloodMapsBasic_2743_2;FloodMapsBasic_2743_3;FloodMapsBasic_2743_4;FloodMapsBasic_2743_5;FloodMapsBasic_2743_6;FloodMapsBasic_2743_6;FloodMapsBasic_2743_6;FloodMapsBasic_2743_6;FloodMapsBasic_2743_9;FloodMapsBasic_2743_10;FloodMapsBasic_2743_11 [Accessed: February 2025]

⁸ Historic environment Scotland (2024) Historic Environment Scotland Data Services [online] Available

at: https://portal.historicenvironment.scot/downloads [Accessed: February 2025]

⁹ Highland Council (2012) Highland-wide Local Development Plan [online] Available at:

 $https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan [Accessed: March 2025] and the properties of the propertie$



- Avoid skylining the route in key views and where necessary, cross ridges obliquely where a dip in the ridge provides an opportunity;
- Target the alignment towards open valleys and woods where the apparent height of towers will be reduced and views broken by trees (avoid slicing through landscape types and try to keep to edges and landscape transitions);
- Consider the appearance of other lines in the landscape to avoid a dominating or confusing wirescape effect; and
- Approach urban areas through industrial zones and consider the use of undergrounding in residential and valued recreational areas.

Indicative alignment options have been identified within the proposed route to allow for subsequent identification of alignments during the next stage of the process (Stage 4).

3.5 Appraisal Method

Appraisal of alignment options has involved systematic consideration against the following environmental, technical and economic topic areas:

3.5.1 Environmental

- Natural Heritage (Designations, Protected Species, Habitats, Ornithology and Geology, Hydrogeology and Hydrology);
- Cultural Heritage (Designations and Cultural Heritage Assets);
- People (Settlements, Visual and Physical Effects);
- Landscape (Designations and Character);
- Land Use (Agriculture, Forestry and Recreation); and
- Planning.

Environmental sensitivity has been considered qualitatively, based on professional judgement and utilising the Red, Amber, Green (RAG) rating. It has been applied to each topic area indicating potential impacts. This rating is based on a four-point scale as described in **Table 3.1** below. SSEN Transmission guidance "Procedures for Routeing Overhead Lines of 132 kV or above" (**Section 3.1**) has been followed.

Table 3.1 RAG Rating for Comparative Analysis

Performance	Comparat	ive Appraisal
Most Preferred	No Impact	No potential for the infrastructure design development to be constrained
	Lower Impact	High potential to accommodate the required infrastructure within the context of the consideration appraised
	Moderate Impact	Moderate potential to accommodate the required infrastructure within the context of the consideration appraised
Least Preferred	Higher Impact	Low potential to accommodate the required infrastructure within the context of the consideration appraised



3.5.2 Engineering

The purpose of this assessment is to evaluate the alignment options using the methodology and engineering categories in table A7 of SSEN document PR-NET-ENV-501: Procedures of Routeing Overhead Lines of 132kV and above. These categories are as follows:

- Infrastructure crossings major crossings, road crossings;
- Environmental design elevation, atmospheric pollution, contaminated land, flooding;
- Ground conditions terrain, peat;
- Construction/Maintenance access; and
- **Proximity** clearance distance, communication masts, metallic pipelines.

Engineering sensitivity has been considered qualitatively, based on professional judgement and utilising the RAG rating. It has been applied to each topic area indicating potential impacts. This rating is based on a four-point scale as described in **Table 3.1**. SSEN Transmission guidance "Procedures for Routeing Overhead Lines of 132 kV or above" (**Section 3.1**) has been followed.

3.5.3 Cost

Appraisal of alignment options has involved systematic consideration against capital cost including construction, diversions, public road improvements, felling and land assembly.

To allow comparative appraisal a RAG rating has been applied using the criteria described in **Table 3.2**.

Table 3.2 Cost RAG Rating for Comparative Analysis

Red	Amber	Green
>140% of least cost option	120 - 140% of least cost option	< 120% of least cost option

3.5.4 Identification of a Preferred Alignment

Following review of all the potential alignment options, these have been considered in combination to arrive at a preferred alignment option. The overall objective throughout the appraisal of alignment options has been to take full consideration of all environmental factors to minimise any potential adverse impacts on the environment whilst taking into account technical and cost considerations. Where possible, sections of the lowest risk have been combined to form a complete alignment option. However, where it is not possible to join up all sections of lowest risk rating, the section of next best rating has been selected, using professional judgement.



4. DESCRIPTION OF ALIGNMENTS

The alignment options are illustrated in Figure 4.1 (Appendix C) and are described below.

4.1 Eastern Section

4.1.1 Alignment option 1.1

Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument, traveling 5.4 km NE towards the Fyrish Substation.

4.1.2 Alignment option 1.2

Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument. It proceeds slightly further north than alignment option 1.1, located within the Novar SPA, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

4.1.3 Alignment option 1.3

Alignment option 1.3 is an UGC which starts 0.6 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument, where it travels in a straight line for 5.3 km towards Fyrish Substation. This is located south of the existing 132kV OHL for reference

4.2 Western Section

4.2.1 Alignment option 2.1

Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the alignment then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument.

4.2.2 Alignment option 2.2

Alignment option 2.2 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then NNE for 0.5 km. It turns ENE for 2.3 km where it veers slightly more east for 1.8 km, crossing the River Glass, and ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument.

4.2.3 Alignment option 2.3

Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The alignment then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cladh Churadain burial ground and chapel Scheduled Monument.



5. COMPARATIVE ANALYSIS

This section provides a summary of the potential environmental, technical and economic constraints identified for each alignment option. A detailed review of potential environmental and technical constraints is presented in **Appendix A** and **B**.

5.1 Alignment Option 1.1 (OHL)

5.1.1 Environmental Constraints

5.1.2 Landscape and Visual Context

The landscape and visual constraints present within alignment option 1.1 are illustrated in **Figure 5.1 (Appendix C)**.

Designations

Alignment option 1.1 does not pass through any NSAs, WLAs, or SLAs. The Ben Wyvis SLA and WLA are both 6.6 km west of the alignment and unlikely to be impacted. However, the alignment passes through the northern part of the Novar GDL, potentially compromising its qualities, resulting in an Amber rating.

Visual Amenity

Potential visual receptors include visitors to Fyrish Monument lookout, users of nearby core paths, residents of Mains of Novar and Evanton/Baile-Eoghain, and travellers along the A9. The alignment may affect views and visual amenity, but existing infrastructure mitigates this impact, leading to an Amber rating.

5.1.3 Natural Heritage Context

The natural heritage designations present within alignment option 1.1 are illustrated in Figure 5.2 (Appendix C).

Designations

Alignment option 1.1 passes near several designated sites, with specific distances as follows:

- Novar SPA: 30 m W;
- Allt nan Caorach SSSI: 2.9 km N;
- Alness River Valley SSSI: 2.2 km E;
- Cromarty Firth SSSI, SPA & Ramsar Site: 1.6 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 6.9 km WNW;
- Morangie Forest SPA: 5.5 km ENE;
- Moray Firth SPA: 15.5 km SE;
- Inner Moray Firth SPA Ramsar Site: 15.3 km SE;
- Dornoch Firth and Loch Fleet SPA & Ramsar Site: 17.1 km ENE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Designated sites with ornithological species with no connectivity to the Proposed Development have not been included.

This alignment poses potential risks to the qualifying species within these designated sites. Therefore, a Red rating is applied.



Protected Species

European protected species in the area include otter, wildcat, and various bat species, with a Wildcat Protection Area covering 50% of the alignment in the west. UK BAP species such as red squirrel, pine marten, badger, and adder, along with SBL species like slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare, are also present. Despite the WPA, the Proposed Development is unlikely to compromise the conservation status or habitat for these species due to design, licensing, and best practice construction techniques, resulting in a Green rating.

Habitat

There is limited peatland within the alignment option. Blanket bog habitats have the potential to further include EU Annex 1 habitats and support GWDTE. However, it is unlikely that alignment option 1.1 would compromise these habitats. Alignment option 1.1 component soils are primarily made up of humus-iron podzols.

Category 2a ancient woodland is present within alignment option 1.1

Despite the presence of Annex 1 habitats, it is unlikely that alignment option 1.1 will compromise the conservation status of the habitats and therefore, a Green rating is applied.

Geology, Hydrology and Hydrogeology

The alignment option 1.1 lies within 250 m of two PWS which are hydrologically connected to the option (PWS Novar Estate and PWS Novar - Mains Cottage). The alignment does not pass through any WFD-designated watercourses. However, it passes through two surface water drinking protected areas (Allt Duach and River Glass - Cromarty Firth to Redburn).

There is no Class 1 or 2 priority peatland, with most of the alignment mapped as Class 0 Peatland. Phase 1 peat depth surveys show mostly shallow soils (<0.5 m). Bedrock substrate was frequently recorded. Peat probing surveys did not cover the majority of this alignment as the desktop study did not identify that much peat was present along the alignment.

An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

The following designations and their qualifying bird species in relation to alignment option 1.1 are as follows:

- Novar SPA (30 m W): Supports breeding capercaillie.
- Cromarty Firth SPA & Ramsar Site (1.6 km SE): Supports osprey, common tern, greylag goose, whooper swan, bar-tailed godwit, and over 20,000 wintering waders and wildfowl.
- Ben Wyvis SPA (6.9 km WNW): Supports breeding dotterel.
- Morangie Forest SPA (5.5 km ENE): Supports capercaillie.
- Moray Firth SPA (15.5 km SE): Supports red-throated diver, great northern diver, Slavonian grebe, sea ducks, and shag.
- Inner Moray Firth SPA Ramsar Site (15.3 km SE): Supports osprey, common tern, greylag goose, red-breasted merganser, redshank, and over 20,000 wintering birds.



- Dornoch Firth and Loch Fleet SPA & Ramsar Site (17.1 km ENE): Supports osprey, greylag goose, bar-tailed godwit, and over 20,000 wintering birds.
- Glen Affric to Strathconon SPA (21.6 km SW): Supports golden eagle.

Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones near alignment option 1.1 are black grouse, capercaillie, osprey, and red kite.

Alignment option 1.1 may cause barrier and collision effects to SPA species, resulting in a Red rating.

5.1.4 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 1.1 are illustrated in Figure 5.3 (Appendix C).

Alignment option 1.1 does not pass through any Registered Battlefields or World Heritage Sites within 5 km. It passes through one GDL (GDL00303 Novar) and is within 200 m of SM5007, Cladh Churadain, chapel and burial ground. There are 14 Scheduled Monuments and one GDL (GDL00023 Ardross Castle) within 5 km.

One non-designated asset (a post-medieval quern stone) is within 50 m at Tobar a Chairn, with a higher likelihood of encountering buried archaeology near SM5007.

Direct impacts may affect the Novar GDL boundary and non-designated assets, with potential to oversail or interact with designated assets. Indirectly, visual changes may significantly affect the setting of designated assets, resulting in a Red rating for cultural heritage designations.

There are no Conservation Areas or Listed Buildings within the alignment, but within 5 km, there are 6 Category A, 35 Category B, and 18 Category C Listed Buildings.

Indirect impacts may affect the setting of Listed Buildings, particularly Foulis Castle, leading to an Amber rating for cultural heritage assets.

People

Alignment option 1.1 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.3 km south at the closest point, and Novar House, located 0.5 km south at the closest point. The small towns of Evanton and Alness are 1.3 km away at the nearest point. Therefore, an Amber rating is applied.

Land Use and Recreation

Alignment option 1.1 has agricultural land with a capability ranging from 6.2 in the west to 4.1 in the east, compromising its viability, resulting in a Red rating.

It crosses a small section of conifer plantation woodland in the west near Assynt House, likely affecting commercial forestry operations, also resulting in a Red rating.

The alignment is 1 km south of the Fyrish core path, 0.6 km northwest of Novar Green Road and Novar Quarry core paths, and 0.5 km northwest of Black Rock Gorge and Evanton Woods core paths, leading to a Green rating.

Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the



development of electricity infrastructure. Alignment option 1.1 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications. Therefore, alignment option 1.1 is assigned a Green Rating.

Table 5.1 Environmental RAG Rating Table for Alignment option 1.1

	RAG Impact Rating - Environmental													
	Natural Heritage						tural tage	People	Land	scape	L	and Us	se	Planning
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Ornithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning
1.1 OHL	Н	L	L	М	Ι	Η	М	М	М	М	Н	Н	L	L

5.1.5 Engineering Constraints

Major Crossings

Alignment option 1.1 has 2 existing transmission OHLs both the Beauly – Shin west 132KV OHL line and the Beauly – Fyrish 275KV OHL, at a single intersection point. There are no other potential major crossings. Therefore, a Red rating is applied.

Road Crossings

Alignment option 1.1 crosses 2 access tracks and 3 roads. Therefore, an Amber rating is applied.

Elevation

Alignment option 1.1 is entirely below 200 m AOD and therefore falls within the low risk category where less than 10 % of the alignment is above 200 m AOD. A Green rating is therefore applied.

Atmospheric Pollution

Alignment option 1.1 has fairly high levels of Arsenic pollution affecting around 50 % of the alignment, and CO₂ and NO₂ affecting around 15 % of the alignment. Therefore, a Red rating is applied.

Contaminated Land

Alignment option 1.1 has no known risk of soil contamination and no identified significant sources of UXO hazards. Therefore, a Green rating is applied.

Flooding

Alignment option 1.1 has two very small flood zone crossings that account for around 1 % of the alignment's length. As less than 2 % of the alignment's total length is within the 1-in-200-year flood zone, a Green rating is applied.

Terrain

Alignment option 1.1 has a maximum gradient of 6.9 %. As this is below 40 %, an Amber rating is applied.



Peatland

Alignment option 1.1 is located entirely within Class 0 peat, which is classified as mineral soil. Therefore, a Green rating is applied.

Access

Alignment option 1.1 is within 1 km of an access track or road throughout the entire alignment. Therefore, a Green rating is applied.

Angle Supports

Alignment option 1.1 has approximately 7 angle structures and it is estimated that 7 angle poles would be required. Therefore, a Red rating is applied.

Clearance

Alignment option 1.1 has several clearance infractions with properties and is within 250 m of 6 properties. Therefore, a Red rating is applied.

Wind Farms

Alignment option 1.1 is at a distance greater than 3 times the rotor diameter of the Abhainn Dubh wind farm. Therefore, a Green rating is applied.

Communication Masts

Alignment option 1.1 is more than 1 km from the nearest telecoms mast at Evanton and does not interfere with the mast's line of sight. Therefore, a Green rating is applied.

Urban Developments

Alignment option 1.1 is within a rural area. Therefore, a Green rating is applied.

Metallic Pipes

There are no known metallic pipes within alignment option 1.1. Therefore, a Green rating is applied.

Alignment Lengths

Alignment option 1.1 is approximately 5 km and is 3 % longer than alignment option 1.2. However, both alignment options are within 5 % of each other. Therefore, a Green rating is applied.

DNO Crossings

Alignment option 1.1 crosses a 33 kV distribution line at three different locations and a 400 kV distribution line at one location. Therefore, a Red rating is applied.



Table 5.2 Engineering RAG Rating Table for Alignment option 1.1

	tu	struc re ssing	En	Des		ental d Constructio n and Proximity Maintenance			Proximity				Other					
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle of deviation	Clearance Distance	Windfarms	Communication Masts	Urban Environments	Metallic Pipes	Alignment Length	DNO Crossings	ESQCR
1.1 OHL	Н	L	L	Η	L	L	M	L	L	Ι	Η	L	L	L	اــ	L	Ι	М

5.1.6 Economic Considerations

Capital

Alignment option 1.1 has been rated High for capital costs as it is over 140% of least cost option

Operational

Alignment option 1.1 has been rated Amber for operational costs <u>as it is over 120% of least cost option</u>.

Table 5.3 Costs RAG Rating Table for Alignment option 1.1

Alignment	RAG Impact Rating - Cost										
Option	Capital	Operational									
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance									
1.1 OHL	Н	М									



5.2 Alignment Option 1.2 (OHL)

5.2.1 Landscape and Visual Context

The landscape and visual constraints present within alignment option 1.2 are illustrated in **Figure 5.1 (Appendix C)**.

Designations

Alignment 1.2 does not pass through any NSA, WLA, or SLA. The Ben Wyvis SLA and WLA, both 8 km west, are unlikely to be impacted. However, the alignment passes through the northern part of the Novar GDL, potentially compromising its qualities, resulting in an Amber rating.

Visual Amenity

The alignment may affect views and visual amenity for several groups, including visitors to Fyrish Monument lookout, users of core paths to the south, residents of Mains of Novar and Evanton/Baile-Eoghain, and travellers along the A9 to the south. However, the presence of existing infrastructure mitigates this impact, leading to an Amber rating.

5.2.2 Natural Heritage Context

The natural heritage designations present within alignment option 1.2 are illustrated in Figure 5.2 (Appendix C).

Designations

Alignment option 1.2 passes near several designated sites, with specific distances as follows:

- Novar SPA: Within alignment option 1.2;
- Allt nan Caorach SSSI: 2.9 km N;
- Alness River Valley SSSI: 2.2 km E;
- Cromarty Firth SSSI, SPA & Ramsar Site: 2.1 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 6.9 km W;
- Morangie Forest SPA: 5.55 km ENE;
- Moray Firth SPA: 15.9 km SE;
- Inner Moray Firth SPA Ramsar Site: 15.6 km SE;
- Dornoch Firth and Loch Fleet SPA & Ramsar Site: 17.1 km ENE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Alignment option 1.2 passes through areas of ancient woodland and long-established plantation woodland and is located in close proximity to the above listed designated sites. There is the potential to compromise internationally or nationally designated areas and the conservation status of the designating features, for example by passing directly through Novar SPA. Therefore, a Red rating is applied.

Protected Species

European protected species in the area include otter, wildcat, and various bat species, with a Wildcat Protection Area covering 50% of the alignment in the west. UK BAP species such as red squirrel, pine marten, badger, and adder, along with SBL species like slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare, are also present. Despite the WPA, the Proposed Development is unlikely to compromise the



conservation status or habitat for these species due to design, licensing, and best practice construction techniques, resulting in a Green rating.

Habitat

There is limited peatland within the alignment option. Blanket bog habitats have the potential to further include EU Annex 1 habitats and support GWDTE. However, it is unlikely that alignment option 1.2 would compromise these habitats. Alignment option 1.2 component soils are primarily made up of humus-iron podzols.

A Green rating is applied as the Proposed Development is not likely to compromise the conservation status of Annex 1 habitats.

Geology, Hydrology and Hydrogeology

The alignment option 1.2 does not lie within 250 m of any PWS. The alignment does not pass through any WFD-designated watercourses. However, it passes through two surface water drinking protected areas (Allt Duach and River Glass - Cromarty Firth to Redburn).

There is no Class 1 or 2 priority peatland, with most of the alignment mapped as mineral soil, Class 0 Peatland. Phase 1 peat depth surveys show mostly shallow soils (<0.5 m). Bedrock substrate was frequently recorded. Peat probing surveys did not cover the majority of this alignment as the desk top study did not identify that much peat was present along the alignment.

An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

The following designations and their qualifying bird species in relation to alignment option 1.2 are as follows:

- Novar SPA (extensively within alignment option 1.2): Supports breeding capercaillie.
- Cromarty Firth SPA Ramsar Site (2.1 km SE): Supports osprey, common tern, greylag goose, whooper swan, bar-tailed godwit, red-breasted merganser, redshank, and wigeon.
- Ben Wyvis SPA (6.9 km WNW): Supports breeding dotterel.
- Morangie Forest SPA (5.55 km ENE): Supports capercaillie.
- Moray Firth SPA (15.9 km SE): Supports red-throated diver, great northern diver, Slavonian grebe, greater scaup, common eider, long-tailed duck, common scoter, velvet scoter, common goldeneye, red-breasted merganser, and European shag.
- Inner Moray Firth SPA Ramsar Site (15.6 km SE): Supports osprey, common tern, greylag goose, red-breasted merganser, and redshank.
- Dornoch Firth and Loch Fleet SPA Ramsar Site (17.1 km ENE): Supports osprey, greylag goose, bar-tailed godwit, and wigeon.
- Glen Affric to Strathconon SPA (21.6 km SW): Supports golden eagle.

Schedule 1 / Annex I and / or BoCC red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones near alignment option 1.2 are black grouse, capercaillie, osprey, red kite.

Alignment option 1.2 has the potential to cause barrier and collision effects to qualifying SPA species, resulting in a Red rating.



5.2.3 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 1.2 are illustrated in **Figure 5.3 (Appendix C)**.

There are no Registered Battlefields or World Heritage Sites within 5 km of alignment option 1.2, but it includes one GDL (GDL00303 Novar). No Scheduled Monuments are within the alignment, though SM5007 (Cladh Churadain, chapel, and burial ground) is 120 m north. Within 5 km, there are 14 Scheduled Monuments (including SM5007) and one GDL (GDL00023 Ardross Castle). There are no Conservation Areas within 5 km. This alignment passes immediately adjacent to the Cladh Churadain SM and therefore has a high potential impact on designations, resulting in a Red rating.

No non-designated assets are identified within 50 m of alignment option 1.2 from the Canmore Database, but the likelihood of encountering buried archaeology is elevated, especially around SM5007. There is potential for marginal physical impact within the Novar GDL boundary and non-designated assets, and for close interaction with designated assets. Significant potential exists to affect the setting of designated assets due to changes in the visual sphere and character of the area. The setting of Listed Buildings, such as Foulis Castle (LB7911 – Cat A), may be impacted by changes in landscape visibility and character. Within 5 km of alignment option 1.2, there are 6 Category A, 35 Category B, and 18 Category C Listed Buildings. Thus, a moderate impact on cultural heritage assets is expected, resulting in an Amber rating.

People

Alignment option 1.2 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.4 km south at the closest point, and Novar House, located 0.9 km south at the closest point. The small towns of Evanton and Alness are 1.3 km away at the nearest point. Therefore, an Amber rating is applied.

Land Use and Recreation

Agricultural land within alignment option 1.2 has a land capability ranging between 6.2 and 4.1 and is likely to compromise the areas agricultural use and viability. Therefore, a Red rating has been applied for agricultural land use.

An Amber rating is applied for forestry land use as alignment option 1.2 passes through conifer and broadleaf plantation woodland but avoids areas of commercial forestry.

Alignment option 1.2 is 0.6 km south of the Fyrish core path, 0.6 km northwest of Novar Green Road and Novar Quarry core paths, and 0.5 km northwest of Black Rock Gorge and Evanton Woods core paths at the closest points. Therefore, a Green rating has been applied for recreational land use.

Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure. Alignment option 1.2 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications. Therefore, Alignment option 1.2 is assigned a Green Rating.



Table 5.5.4 Environmental RAG Rating Table for Alignment option 1.2

		RAG Impact Rating - Environmental												
		Natu	ral Heri	itage			tural tage	People	Land	scape	L	Planning		
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Ornithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning
1.2 OHL	Н	L	L	М	Н	Н	М	М	М	М	Н	М	L	L

5.2.4 Engineering Constraints

Major Crossings

Alignment option 1.2 has no major crossings. Therefore, a Green rating is applied.

Road Crossings

Alignment option 1.2 crosses 1 access track and 4 roads. Therefore, a Green rating is applied.

Elevation

Alignment option 1.2 is entirely below 200 m AOD and therefore falls within the low risk category where less than 10 % of the alignment is above 200 m AOD. A Green rating is therefore applied.

Atmospheric Pollution

Alignment option 1.2 has fairly high levels of Arsenic pollution affecting around 50 % of the alignment, and CO₂ and NO₂ affecting around 15 % of the alignment. Therefore, a Red rating is applied.

Contaminated Land

Alignment option 1.2 has no known risk of soil contamination and no identified significant sources of UXO hazards. Therefore, a Green rating is applied.

Flooding

Alignment option 1.2 has 2 very small flood zone crossings that account for around 1.8 % of the alignment's length. As less than 2 % of the alignment's total length is within the 1-in-200-year flood zone, a Green rating is applied.

Terrain

Alignment option 1.2 has a maximum gradient of 9.6 %. As this is below 40 %, an Amber rating is applied.

Peatland

Alignment option 1.2 is located entirely within Class 0 peat, which is classified as mineral soil. Therefore, a Green rating is applied.



Access

Alignment option 1.2 is within 1 km of an access track or road throughout the entire alignment. Therefore, a Green rating is applied. This alignment has better access than alignment option 1.1 with a road running parallel to the alignment and an average distance of around 100 mm from a road.

Angle Supports

Alignment option 1.2 follows a relatively straight path and approximately 5 angle poles would be required. Therefore, a Green rating is applied.

Clearance

Alignment option 1.2 is within 250 m of 5 properties. Therefore, a Red rating is applied.

Wind Farms

Alignment option 1.2 is at a distance greater than 3 times the rotor diameter of the Abhainn Dubh wind farm. Therefore, a Green rating is applied.

Communication Masts

Alignment option 1.2 is more than 1 km from the nearest telecoms mast at Evanton and does not interfere with the mast's line of sight. Therefore, a Green rating is applied.

Urban Developments

There are no urban environments within the alignment option 1.2. Therefore, a Green rating is applied.

Metallic Pipes

There are no known metallic pipes within alignment option 1.2. Therefore, a Green rating is applied.

Alignment Lengths

Alignment option 1.2 is approximately 5 km and is the shortest alignment. A Green rating is applied.

DNO Crossings

Alignment option 1.2 crosses a 33 kV underground cable line and a 400 kV distribution line at one location. Therefore, an Amber rating is applied.

Table 5.5 Engineering RAG Rating Table for Alignment option 1.2

	Infrastruc ture Crossing		En	Environmental Design			Groun d Constructio n and Maintenance			Proximity					Other			
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle of deviation	Clearance Distance	Windfarms	Communication Masts	Urban Environments	Metallic Pipes	Alignment Length	DNO Crossings	ESQCR
1.2 OHL	L	L	L	Н	L	L	М	L	L	L	Н	L	L	L	L	L	M	L



5.2.5 Economic Considerations

Capital

Alignment option 1.2 has been rated Green for capital costs as it is the least cost option.

Operational

Alignment option 1.2 has been rated Green for operational costs as it is the least cost option.

Table 5.5.6 Costs RAG Rating Table for Alignment option 1.2

Alignment	RAG Impact Rating - Cost										
Option	Capital	Operational									
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance									
1.2 OHL	L	L									





5.3 Alignment Option 1.3 (UGC)

5.3.1 Environmental Constraints

5.3.2 Landscape and Visual Context

The landscape and visual constraints present within alignment option 1.3 are illustrated in **Figure 5.1 (Appendix C)**.

Alignment 1.3 does not pass through any NSA, WLA, or SLA. The Ben Wyvis SLA and WLA are both 8 km west of the alignment and are unlikely to be affected. The alignment passes through the northern part of the Novar GDL but being underground, is unlikely to compromise its qualities. Therefore, a Green rating is applied, as the alignment is unlikely to impact views and visual amenity.

5.3.3 Natural Heritage Context

The natural heritage designations present within alignment option 1.3 are illustrated in **Figure 5.2 (Appendix C)**.

Designations

Alignment option 1.3 passes near several designated sites, with specific distances as follows:

- Novar SPA: 50 m N;
- Allt nan Caorach SSSI: 2.9 km N;
- Alness River Valley SSSI: 2.2 km E;
- Cromarty Firth SSSI, SPA & Ramsar Site: 1.7 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 7.2 km WNW;
- Morangie Forest SPA: 5.3 km ENE;
- Moray Firth SPA: 16 km SE;
- Inner Moray Firth SPA Ramsar Site: 15.7 km SE;
- Dornoch Firth and Loch Fleet SPA & Ramsar Site: 16.9 km ENE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Alignment option 1.3 passes through areas of ancient woodland and long-established plantation woodland and is located in close proximity to the above listed designated sites. There is the potential to compromise internationally or nationally designated areas and the conservation status of the designating features, for example by passing directly through Novar SPA. Therefore, a Red rating is applied.

Protected Species

European protected species in the area include otter, wildcat, and bat species. A designated WPA covers about 50% of the alignment in the west. UK BAP species include red squirrel, pine marten, badger, and adder. SBL species include slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare. Despite the WPA, with proper design, licensing, and construction techniques, the Proposed Development is unlikely to compromise the conservation status or habitat for these species, therefore a Green rating is applied.

Habitat

There is limited peatland within the alignment option. Blanket bog habitats have the potential to further include EU Annex 1 habitats and support GWDTE. However, it is



unlikely that alignment option 1.3 would compromise these habitats. Alignment option 1.3 component soils are primarily made up of humus-iron podzols.

There are multiple areas of long established ancient woodland of Category 1a or 2a within the alignment.

A Green rating is applied as the Proposed Development is not likely to compromise the conservation status of Annex 1 habitats.

Geology, Hydrology and Hydrogeology

The alignment option 1.3 lies within 250 m of two PWS (PWS Novar Estate and PWS Novar - Mains Cottage) which are hydrologically connected to the option. The alignment does not pass through any WFD designated watercourses. However, it passes through two surface water drinking protected areas (Allt Duach and River Glass - Cromarty Firth to Redburn).

There is no mapped Class 1 and 2 priority peatland; the area is mainly Class 0 peat with mineral soil with and peatland vegetation. Phase 1 peat depth surveys show shallow soils (<0.5 m) with no peat recorded along alignment 1.3. Bedrock substrate was frequently recorded. Peat probing surveys did not cover the majority of this alignment as the desk top study did not identify that much peat was present along the alignment.

An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

The following designations and their qualifying bird species in relation to alignment option 1.3 are as follows:

- Novar SPA (0.1 km N): Supports breeding capercaillie.
- Cromarty Firth SPA Ramsar Site (1.7 km SE): Supports breeding osprey and common tern, migratory greylag goose, whooper swan, bar-tailed godwit, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Ben Wyvis SPA (7.2 km WNW): Supports breeding dotterel.
- Morangie Forest SPA (5.3 km ENE): Supports capercaillie.
- Moray Firth SPA (16.0 km SE): Supports non-breeding red-throated diver, great northern diver, Slavonian grebe, wintering sea duck species, and breeding and nonbreeding shag.
- Inner Moray Firth SPA Ramsar Site (15.7 km SE): Supports breeding osprey and common tern, migratory greylag goose, red-breasted merganser, redshank, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Dornoch Firth and Loch Fleet SPA Ramsar Site (16.9 km ENE): Supports breeding osprey, migratory greylag goose, bar-tailed godwit, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Glen Affric to Strathconon SPA (21.6 km SW): Supports golden eagle.

Schedule 1 / Annex I and / or BoCC red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones near alignment option 1.3 are black grouse, capercaillie, osprey and red kite.

Alignment option 1.3 has the potential to cause disturbance and displacement effects to qualifying SPA species, though these can be mitigated through timing of construction works and application of protected species plans and. As alignment option 1.3 is UGC, there is a



lack of collision risk associated with this alignment option, and therefore an Amber rating is applied.

5.3.4 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 1.3 are illustrated in Figure 5.3 (Appendix C).

There are no Registered Battlefields or World Heritage Sites within or within 5 km of alignment option 1.3. Within alignment option 1.3, there is one GDL (GDL00303 Novar). There are no Scheduled Monuments within the alignment option 1.3, but SM5007, Cladh Churadain, chapel and burial ground is located 200 m north. Within 5 km of alignment option 1.3, there are 13 Scheduled Monuments (including SM5007) and one GDL (GDL00023 Ardross Castle). As such, there is the potential for a moderate impact to designations as a result of this alignment and an Amber rating has been applied.

There is one non-designated asset identified from the Canmore Database within 50 m of alignment option 1.3, Cnoc a' Ghairdein post-medieval farmhouse. The likelihood of encountering buried archaeology is elevated, especially around SM5007. Direct impacts may occur within the Novar GDL boundary and non-designated assets, with potential interactions near designated assets. Indirect effects to the setting of designated assets may be temporary during construction. There are no Listed Buildings or Conservation Areas within alignment option 1.3. However, within 5 km, there are 6 Category A, 33 Category B, and 19 Category C Listed Buildings. No direct impacts to Listed Buildings are anticipated, but temporary effects to their setting may occur during construction. As such, there is the potential for a lower impact to cultural heritage assets as a result of this UGC alignment and a Green rating is applied.

People

Alignment option 1.3 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.2 km south at the closest point, and Novar House, located 0.5 km south at the closest point. The small towns of Evanton and Alness are 1.2 km away at the nearest point. Therefore, an Amber rating is applied.

Land Use and Recreation

Agricultural land within alignment option 1.3 has a land capability between 4.2 and 6.2 and is likely to compromise the agricultural use/viability of the land as an agricultural resource. Therefore, a Red rating is applied for the agricultural land use.

A Green rating is applied for forestry land use as alignment option 1.3 passes through conifer and broadleaf woodland but there are no areas of commercial forestry in the alignment.

Alignment option 1.3 is 0.8 km south of the Fyrish core path and 0.7 km northwest of Novar Green Road, Novar Quarry, Black Rock Gorge and Evanton Woods core paths at the closest points. Therefore, a Green rating is applied for the recreational land use.

Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure. Alignment option 1.3 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals,



such as the Ceislein and Creachan Wind Farm applications. Therefore, Alignment option 1.3 is assigned a Green Rating.

Table 5.7 Environmental RAG Rating Table for Alignment Option 1.3

	RAG Impact Rating - Environmental													
		Natu	ral Heri	itage		Cultural Heritage		People	Landscape		L	Planning		
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Omithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning
1.3 UGC	Н	L	L	М	М	M	L	М	L	L	Н	L	L	L

5.3.5 Engineering Constraints

Major Crossings

Alignment option 1.3 has 2 major crossings as it intersects the Beauly-Fyrish 275 kV and Beauly-Shin 132 kV transmission lines. This alignment option also crosses existing 33 kV lines. Therefore, a Red rating is applied.

Road Crossings

Alignment option 1.3 crosses a small number of existing minor road and access tracks and driveways. Therefore, an Amber rating is applied.

Elevation

Alignment option 1.3 is entirely below 200 m AOD and therefore falls within the low risk category where less than 10 % of the alignment is above 200 m AOD. A Green rating is therefore applied.

Atmospheric Pollution

More than two terminations/joint bays are located within 3 km of the coast in relation to alignment option 1.3, posing a significant risk of corrosion to metallic components due to exposure to seawater. Therefore, a Red rating is applied.

Contaminated Land

Alignment option 1.3 has no known risk of soil contamination and no identified significant sources of UXO hazards. Therefore, a Green rating is applied.

Flooding

As 12 % of the total length of alignment option 1.3 is within the 1-in-200-year flood zone, a Red rating is applied.

Terrain

Alignment option 1.3 has a maximum slope gradient of approximately 19 %. A maximum slope below 10 % is considered more favourable for a cable system, with 20 % and above considered a constraint to the development. Therefore, an Amber rating is applied.



Rock

At this stage, there is insufficient data to accurately determine the geology of the area. However, based on site visits to assess alignment option 1.3, the terrain is likely to consist of mineral soil (Class 0 peat), which suggests a lower risk. Therefore, a Green rating is applied.

Peatland

Based on desktop surveys, alignment option 1.3 is located entirely within mineral soil that is not considered peaty and peat probing data indicates peat depths between 0.0 m and < 0.5 m. Therefore, a Green rating is applied.

Access

The majority of alignment option 1.3 is within 1 km of an existing network of access tracks or road. Therefore, a Green rating is applied.

Angles of Deviation

There is some deviation required along alignment option 1.3 and installation will likely require additional support to ensure that the maximum cable pulling tension is not exceeded. Therefore, an Amber rating is applied.

Cable Haul Road

Alignment option 1.3 is likely to require an enhanced haul road out with the main road serving Fyrish substation. Therefore, an Amber rating is applied.

Clearance

Given the proximity of the alignment option 1.3 to properties (less than 150 m) and the crossing of 2 existing overhead lines (the Beauly-Fyrish 275 kV and Beauly-Shin 132 kV transmission lines), a Red rating is applied.

Wind Farms

The proposed location of the Cable sealing end (CSE) of alignment option 1.3 greater than 150 m away from the nearest wind farm and is therefore out with wind turbine wake zones and the risk of ice throw is deemed low. A Green rating is applied.

Communication Masts

Alignment option 1.3 is more than 1 km from the nearest communications mast. Therefore, a Green rating is applied.

Urban Developments

Alignment option 1.3 is entirely within a rural area. Therefore, a Green rating is applied.

Metallic Pipes

A metallic pipeline survey will be conducted at a later stage to confirm their presence and proximity to alignment option 1.3. While the lack of current data introduces some uncertainty, based on the characteristics of the area, it is unlikely to present a significant obstacle. Therefore, an Amber rating is applied.

Reactive Compensation (HVAC Circuits only)

The total length of alignment option 1.3 is less than 10 km and therefore would not require reactive power compensation equipment.



Joint Bays and Link Box Chambers

All existing access tracks are located more than 100 metres away from the majority of the joint bay. Therefore, alignment option 1.3 would require new access tracks to the joint bay location and a Red rating is applied.

The Electricity Safety, Quality and Continuity Regulations (ESQCR) assessment

Alignment option 1.3 is assessed as having a low risk of impact on the Electricity Safety, Quality and Continuity Regulations. Therefore, a Green rating is applied.

Table 5.8 Engineering RAG Rating Table for Alignment Option 1.3

	Infrastruc ture Crossing		Environmental Design			Ground Condition			Construction and Maintenance			Proximity					Design		ESQC R	
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Rock	Peatland	Access	Angle of deviation	Cable Haul Road	Clearance Distance	Windfarms	Communication	Urban Environments	Metallic Pipes	Reactive Compensation	Joint Bays and Link Box Chambers	ESQCR
1.3 UGC	Н	M	L	Н	L	Н	M	L	L	L	M	М	Н	L	L	L	М	L	Н	L

5.3.6 Economic Considerations

Capital

Alignment option 1.3 has been rated High for capital costs as it is over 140% of least cost option.

Operational

Alignment option 1.3 has been rated Amber for operational costs as it is over 120% of least cost option.

Table 5.9 Cost RAG Rating Table for Alignment Option 1.3

Alignment	RAG Impact Rating - Cost								
Option	Capital	Operational							
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance							
1.3 UGC	Н	I							



5.4 Alignment Option 2.1 (OHL)

5.4.1 Environmental Constraints

5.4.2 Landscape and Visual Context

The landscape and visual constraints present within alignment option 2.1 are illustrated in Figure 5.1 (Appendix C).

Designations

Alignment 2.1 does not pass through any NSA, WLA, or SLA. The Ben Wyvis SLA and WLA are both 2.8 km northwest of the alignment and are unlikely to be affected. Therefore, a Green rating is applied.

Visual Amenity

Potential visual receptors include users of the core path at Swordale Hill and private views from properties to the south. The alignment may impact views and visual amenity at these locations, resulting in an Amber rating.

5.4.3 Natural Heritage Context

The natural heritage designations present within alignment option 2.1 are illustrated in Figure 5.2 (Appendix C).

Designations

Alignment option 2.1 passes near several designated sites, with specific distances as follows:

- Novar SPA: 0.1 km N;
- Allt nan Caorach SSSI: 1.3 km N;
- Cromarty Firth SSSI, SPA & Ramsar Site: 3.2 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 2.8 km W;
- Morangie Forest SPA: 10.1 km ENE;
- Moray Firth SPA: 15 km SE;
- Inner Moray Firth SPA Ramsar Site: 14.7 km SE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Alignment option 2.1 passes through areas of ancient woodland and long-established plantation woodland and is located in close proximity to the above listed designated sites. There is the potential to compromise internationally or nationally designated areas and the conservation status of the designating features, for example by passing directly through Novar SPA. Therefore, a Red rating is applied.

Protected Species

European protected species in the area include otter, wildcat, and various bat species, with the alignment within a designated WPA. UK BAP species such as red squirrel, pine marten, badger, and adder, along with SBL species like slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare, are also present. Despite the WPA, the Proposed Development is unlikely to compromise the conservation status or habitat for these species due to design, licensing, and best practice construction techniques, resulting in a Green rating.



Habitat

There is limited peatland within the alignment option. Blanket bog habitats have the potential to further include EU Annex 1 habitats and support GWDTE. However, it is unlikely that alignment option 2.1 would compromise these habitats.

Class 5 Peatland, recorded to the west, lacks peatland vegetation but may have carbonrich soil and deep peat. The majority of the alignment however falls within Class 0 Peatland. Alignment option 2.1 primarily consists of humus-iron podzols, with peaty gleys and dystrophic blanket peat in the west.

Ancient woodland of category 1a and 2a is present within the alignment. A Red rating is applied as the Proposed Development is likely to compromise ancient woodland by passing directly through it.

Geology, Hydrology and Hydrogeology

The alignment option 2.1 lies within 250 m of four PWS which are hydrologically connected to the option (PWS Swordale New Lodge, PWS Swordale – Lower, PWS Swordale Milton Lodge and PWS Swordale - Milton Lodge Steading). The alignment passes through two WFD designated watercourses (River Glass and River Skitheach) and one surface water drinking protected area (River Glass - Cromarty Firth to Redburn).

There is no Class 1 or 2 priority peatland, but Class 5 peatland is present in the west. Phase 1 peat surveys were conducted in areas where topography indicated peat likely. Phase 1 peat depth surveys show mostly shallow soils (<0.5 m) with localized deeper peat (>0.5 m) in the west. Peat probing surveys did not cover the majority of this alignment as the desktop study identify that peat is unlikely to be present along the alignment. Bedrock substrate was frequently recorded.

An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

The following designations and their qualifying bird species in relation to alignment option 2.1 are as follows:

- Novar SPA within and immediately adjacent to (0.1 km N): Supports breeding capercaillie.
- Cromarty Firth SPA Ramsar Site (3.2 km SE): Supports breeding osprey and common tern, migratory greylag goose, whooper swan, bar-tailed godwit, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Ben Wyvis SPA (2.8 km WNW): Supports breeding dotterel.
- Morangie Forest SPA (10.1 km ENE): Supports capercaillie.
- Moray Firth SPA (15.0 km SE): Supports non-breeding red-throated diver, great northern diver, Slavonian grebe, wintering sea duck species, and breeding and nonbreeding shag.
- Inner Moray Firth SPA Ramsar Site (14.7 km SE): Supports breeding osprey and common tern, migratory greylag goose, red-breasted merganser, redshank, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Glen Affric to Strathconon SPA (21.6 km SW): Supports golden eagle.



Schedule 1 / Annex I and BoCC red-list species and Scottish Biodiversity List species with nesting territories/nest buffer zones near alignment option 2.1 include black grouse, capercaillie and red kite.

Alignment option 2.1 has the potential to cause barrier and collision effects to qualifying SPA species, resulting in a Red rating.

5.4.4 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 2.1 are illustrated in Figure 5.3 (Appendix C).

There are no GDL, Registered Battlefields, or World Heritage Sites within alignment option 2.1. There are no Scheduled Monuments within the alignment, but SM4945 (Drumore farmstead, field system, chambered cairn, and cupmarks) is located within 50 m. Within 5 km of alignment option 2.1, there are 11 Scheduled Monuments (including SM4945) and one GDL (GDL00303 Novar).

As such, there is a moderate potential for impact to designations as a result of this alignment and an Amber rating has been applied.

There is one non-designated assets identified within 50 m of alignment option 2.1, the Allt Riabhach Farmstead and the likelihood of encountering buried archaeology is elevated, especially around SM4945. There is potential to interact closely with SM4945 and impact unknown buried archaeological remains. Temporary and permanent effects to the setting of designated assets may occur due to changes in the visual sphere and character of the area. SM4945's value is derived from interconnected views to nearby monuments and views north over inland rivers, which may be impacted by the proposed alignment.

There are no Listed Buildings or Conservation Areas within alignment option 2.1. However, within 5 km, there are 3 Category A, 18 Category B, and 6 Category C Listed Buildings. No direct impacts to Listed Buildings are anticipated, but Foulis Castle (LB7911 – Cat A) 2.5 km to the south may have its key views impacted by the alignment.

As such, there is the potential for a moderate impact to cultural heritage assets including Foulis Castle, as a result of this alignment and an Amber rating is applied.

People

Alignment option 2.1 runs adjacent to Swordale Cottages, 0.3 km away, 0.4 km from both Fannyfield House and Assynt Cottages and 0.82 km from Redburn. The nearest point to Evanton is 1.6 km. Consequently, an Amber rating is applied.

Land Use and Recreation

Agricultural land within alignment option 2.1 has a land capability ranging between 6.3 at Swordale Hill and 4.2. There are Christmas tree plantations within the alignment option and due to the commercial use, an Amber rating is applied.

A Red rating is applied for the forestry land use as alignment option 2.1 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.

Alignment option 2.1 crosses over the core paths of Swordale Hill and is 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at their closest points. The OHL may compromise their recreational use and therefore, an Amber rating is given.



Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure. Alignment option 2.1 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications. Therefore, alignment option 2.1 is assigned a Green Rating.

Table 5.10 Environmental RAG Rating Table for Alignment Option 2.1

					RA	G Impa	act Rat	ing - Env	/ironm	ental				
		Natural Heritage					tural tage	People	Land	scape	L	and Us	e	Planning
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Ornithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning
2.1 OHL	Н	L	Н	М	Н	М	М	М	L	М	М	Н	М	L

5.4.5 Engineering Constraints

Major Crossings

Alignment option 2.1 crosses the River Glass and the River Sgitheach. However, PR-NET-ENV-501 sets out a minimum width of 200 m for a river to be counted as a major infrastructure crossing and the average width of both of these rivers is around 15 - 25 m. Therefore, these river crossings can be discounted.

This alignment option also crosses the proposed LT132-ASTI 400kV OHL Loch Buidhe-Beauly and therefore, an Amber rating is applied.

Road Crossings

Alignment option 2.1 crosses Swordale Road and Glen Glass Road and has 4 access track crossings. Therefore, an Amber rating is applied.

Elevation

More than 25 % of alignment option 2.1 is above 200 m AOD, with 45.6 % of the alignment option above this level, and is therefore given a Red rating.

Atmospheric Pollution

Alignment option 2.1 experiences low pollution levels along the majority of its length for all pollutants investigated. Therefore, a Green rating is applied.

Contaminated Land

There is no known risk of soil contamination or UXO along alignment option 2.1. Therefore, a Green rating is applied.



Flooding

Alignment option 2.1 crosses the River Glass at different points, as well as the River Sgitheach. As a result, approximately 7 % of the total length is located within the 1-in-200-year flood zone and a Red rating is applied.

Terrain

Alignment option 2.1 has a slope gradient below 40 % and therefore an Amber rating applies. However, approximately 34 % of the total length of this alignment option has a slope gradient between 20-30 degrees, which presents more challenges for construction.

Peatland

Due to 7.73% of alignment option 2.1 falling within Class 5 peat, an Amber rating has been assigned.

Access

There are wide access roads near Swordale hill and narrow access roads in the Glen Glass and An Leacann forest areas that run parallel to alignment option 2.1 at a distance of less than 1 km. Therefore, an Amber rating applies.

Angle Supports

Alignment option 2.1 has approximately 10 angle structures and it is estimated that 10 angle poles would be required. The number of angle poles required for this alignment option is greater than 110% of the least number of poles required for alignment option 2.2. Therefore, a Red rating is applied.

Clearance

There is one property within 100 m and several within 250 m of alignment option 2.1. Therefore, a Red rating is applied.

Wind Farms

Alignment option 2.1 is at a distance greater than 3 times the rotor diameter of the Abhainn Dhubh Wind Farm. Therefore, a Green rating is applied.

Communication Masts

Alignment option 2.1 is more than 1 km from the nearest telecoms mast at Evanton and does not interfere with the mast's line of sight. Therefore, a Green rating is applied.

Urban Developments

Alignment option 2.1 passes through a small town and while there are some settlements along the alignment, there are no real urban environments within it. Therefore, a Green rating is applied.

Metallic Pipes

There are no known metallic pipes within alignment option 2.1. Therefore, a Green rating applies.

Alignment Lengths

Alignment option 2.1 is 4.9 km in length and is 28.3 % longer than the shortest alignment option. Therefore, an Amber rating is applied.



DNO Crossings

Alignment option 2.1 crosses an 11 kV DNO line along Swordale Road and an 11 kV line at the River Glass. Therefore, a Red rating is applied.

The Electricity Safety, Quality and Continuity Regulations (ESQCR) assessment

Based on a high-level ESQCR assessment as per PR-PS-311, alignment option 2.1 passes through forestry, rivers, residential areas, arable crops and is therefore classified as having a higher risk in comparison with alignment options 2.2 and 2.3. Therefore, a Red rating is applied.

Table 5.11 Engineering RAG Rating Table for Alignment Option 2.1

	Infra tu Cros		En	viror Des		ital	Col	oun d ndit on	n	structio and tenance		F	Proximit	у			Other	
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle of deviation	Clearance Distance	Windfarms	Communication Masts	Urban Environments	Metallic Pipes	Alignment Length	DNO Crossings	ESQCR
2.1 OHL	M	M	Н	L	L	Н	М	М	M	Н	Н	L	L	L	L	М	Н	Н

5.4.6 Economic Considerations

Capital

Alignment option 2.1 has been rated Green for capital costs <u>as it is within 120% of least cost option.</u>

Operational

Alignment option 2.1 has been rated Green for operational costs <u>as it is within 120% of least cost option</u>.

Table 5.12 Cost RAG Rating Table for Alignment Option 2.1

Alignment	RAG Impact Rating - Cost	
Option	Capital	Operational
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance
2.1 OHL	L	L



5.5 Alignment Option 2.2 (OHL)

5.5.1 Landscape and Visual Context

The landscape and visual constraints present within alignment option 2.2 are illustrated in **Figure 5.1 (Appendix C)**.

Designations

Alignment 2.2 does not pass through any NSA, WLA, or SLA. The Ben Wyvis SLA and WLA are both 2.8 km west of the alignment and are unlikely to be affected. Therefore, a Green rating is applied.

Visual Amenity

Potential visual receptors include users of the core path at Swordale Hill and private views from properties to the north at Redburn, Knockmartin, and Lynechork. The alignment may compromise views and visual amenity at these locations, resulting in an Amber rating.

5.5.2 Natural Heritage Context

The natural heritage designations present within alignment option 2.2 are illustrated in **Figure 5.2 (Appendix C)**.

Designations

Alignment option 2.2 passes near several designated sites, with specific distances as follows:

- Novar SPA: 0.1 km N;
- Allt nan Caorach SSSI: 0.9 km N;
- Cromarty Firth SSSI, SPA & Ramsar Site: 3.2 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 2.8 km W;
- Morangie Forest SPA: 10.1 km ENE;
- Moray Firth SPA: 15 km SE;
- Inner Moray Firth SPA Ramsar Site: 14.7 km SE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Alignment option 2.2 passes through areas of ancient woodland and long-established plantation woodland and is located in close proximity to the above listed designated sites. There is the potential to compromise internationally or nationally designated areas and the conservation status of the designating features, for example by passing directly through Novar SPA. Therefore, a Red rating is applied.

Protected Species

European protected species in the area include otter, wildcat, and bat species, with the alignment within a designated WPA. UK BAP species include red squirrel, pine marten, badger, and adder. SBL species include slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare.

Despite the WPA, the Proposed Development is unlikely to compromise the conservation status or habitat for EPS or BAP/SBL species due to design, licensing, and best practice construction techniques. A Green rating is applied.



Habitat

There is limited peatland within alignment option 2.2, making it unlikely to compromise Annex 1 habitats such as blanket bog.

Class 5 Peatland, recorded to the west, lacks peatland vegetation but may have carbonrich soil and deep peat. The majority of the alignment however is Class 0 Peatland. Alignment option 2.2 primarily consists of humus-iron podzols, with peaty gleys and dystrophic blanket peat in the west. Ancient woodland of category 2a is present within the alignment, in addition to ancient woodland of category 1a being present at the River Glass.

A Red rating is applied as the Proposed Development is likely to compromise ancient woodland by passing directly through it.

Geology, Hydrology and Hydrogeology

The alignment option 2.2 lies within 250 m of two PWS which are hydrologically connected to the option (PWS Novar Estate and PWS Novar - Mains Cottage). The alignment passes through one WFD designated watercourse (River Glass) and one surface water drinking protected area (River Glass - Cromarty Firth to Redburn). Loch Agoo is also located within 250 m. There is no Class 1 or 2 priority peatland, but Class 5 peatland is present in the west. The majority of the alignment however consists of Class 0 Peatland. Phase 1 peat depth surveys show mostly shallow soils (<0.5 m) with localized deeper peat (>0.5 m) in the west and central areas. Bedrock substrate was frequently recorded.

An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Areas (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

The following designations and their qualifying bird species in relation to alignment option 2.2 are as follows:

- Cromarty Firth SPA Ramsar Site: 3.2 km SE: Supports breeding osprey and common tern, migratory greylag goose, whooper swan, bar-tailed godwit, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Ben Wyvis SPA: 2.8 km WNW: Supports breeding dotterel.
- Morangie Forest SPA: 10.1 km ENE: Supports capercaillie.
- Moray Firth SPA: 15.0 km SE: Supports non-breeding red-throated diver, great northern diver, Slavonian grebe, wintering sea duck species, and breeding and non-breeding shag.
- Inner Moray Firth SPA Ramsar Site: 14.7 km SE: Supports breeding osprey and common tern, migratory greylag goose, red-breasted merganser, redshank, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Glen Affric to Strathconon SPA: 21.6 km SW: Supports golden eagle.

Schedule 1 / Annex I and/or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories/nest buffer zones within alignment option 2.2 include black grouse, capercaillie and red kite.

Alignment option 2.2 has the potential to cause barrier and collision effects to qualifying SPA species, and therefore a Red rating is applied.



5.5.3 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 2.2 are illustrated in **Figure 5.3 (Appendix C)**.

There are no GDLs, Registered Battlefields, or World Heritage Sites within alignment option 2.2. There are no Scheduled Monuments within the proposed alignment, but SM5007 (Cladh Churadain, chapel and burial ground) is located within 300 m. Within 5 km of alignment option 2.2, there are 9 Scheduled Monuments (including SM5007) and one GDL (GDL00303 Novar). There are no Listed Buildings or Conservation Areas within alignment option 2.2. However, within 5 km, there are 2 Category A, 17 Category B, and 5 Category C Listed Buildings. Foulis Castle (LB7911 – Cat A) 3.3 km to the south may have its key views impacted by the alignment, but significant impact to heritage significance is not anticipated. Therefore, a Green rating is applied.

There is one non-designated asset identified within 50 m of alignment option 2.2, a post-medieval croft. The likelihood of encountering buried archaeology is elevated, especially around SM5007. No direct impacts to Listed Buildings are anticipated, but there is potential for indirect impacts to the setting of designated assets. As such, there is the potential for a low impact to cultural heritage assets as a result of this alignment and a Green rating is applied.

People

Alignment option 2.2 runs 0.7 km from Fannyfield house, 0.16 km from Redburn and 1.2 km from Evanton at the nearest point. Therefore, an Amber rating is applied.

Land Use and Recreation

Agricultural land within alignment option 2.2 has a land capability ranging between 6.3 near Swordale Hill and 5.1 to the east of Swordale Hill, therefore, an Amber rating is applied.

A Red rating is applied as alignment option 2.2 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.

Alignment option 2.2 is 0.4 km north of the Swordale Hill core path, 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at the closest points. Therefore, a Green rating is applied for the recreational land use.

Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure. Alignment option 2.2 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications. Therefore, Alignment option 2.2 is assigned a Green Rating.



Table 5.13 Environmental RAG Rating Table for Alignment Option 2.2

					RA	G Impa	act Rat	ing - Env	/ironm	ental				
		Natu	ral Heri	itage		Cultural Heritage		People	Landscape		L	and Us	se	Planning
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Ornithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning
2.2 OHL	Н	L	Н	М	Н	L	L	М	L	М	М	Н	L	L

5.5.4 Engineering Constraints

Major Crossings

Alignment option 2.2 crosses the River Glass. However, PR-NET-ENV-501 sets out a minimum width of 200 m for a river to be counted as a major infrastructure crossing and the average width of this river is around 15 - 25 m. Therefore, this river crossing can be discounted.

This alignment option also crosses the proposed LT132-ASTI 400kV OHL Loch Buidhe-Beauly and therefore, an Amber rating is applied.

Road Crossings

Alignment option 2.2 crosses Glen Glass Road and has 2 access track crossings. Therefore, a Green rating is applied.

Elevation

More than 25 % of alignment option 2.2 is above 200 m AOD, with 55.8 % of this alignment option above this level, and is therefore given a Red rating.

Atmospheric Pollution

Alignment option 2.2 experiences low pollution levels along the majority of its length for all pollutants investigated. Therefore, a Green rating is applied.

Contaminated Land

There is no known risk of soil contamination or UXO along alignment option 2.2. Therefore, a Green rating is applied.

Flooding

Alignment option 2.2 crosses the River Glass and 4.25 % of the total length of the alignment option is located within the 1-in-200-year flood zone. Therefore, an Amber rating is applied.

Terrain

Alignment option 2.2 has a slope gradient below 40 % and therefore an Amber rating applies. However, this alignment option is the flattest in comparison with alignment options 2.1 and 2.3, with the lowest maximum and average slopes.



Peatland

Due to 26.75 % of alignment option 2.2 falling within Class 5 peat, an Amber rating has been assigned.

Access

There are access roads at the foot of the Swordale hill that run parallel to alignment option 2.2 at a distance of less than 1 km. Therefore, an Amber rating applies.

Angle Supports

Alignment option 2.2 has approximately 8 angle structures and it is estimated that 8 angle poles would be required. The number of angle poles required for this alignment option is the least in comparison with alignment options 2.1 and 2.3. Therefore, a Green rating is applied.

Clearance

There are 4 properties within 100-250 m of alignment option 2.2 in the Redburn area along the River Glass. Therefore, an Amber rating is applied.

Wind Farms

Alignment option 2.2 is at a distance greater than 3 times the rotor diameter of the Abhainn Dhubh Wind Farm. Therefore, a Green rating is applied.

Communication Masts

Alignment option 2.2 is more than 1 km from the nearest telecoms mast at Evanton and does not interfere with the mast's line of sight. Therefore, a Green rating is applied.

Urban Developments

Alignment option 2.2 passes through a small town and while there are some settlements along the alignment, there are no real urban environments within it. Therefore, a Green rating is applied.

Metallic Pipes

There are no known metallic pipes within alignment option 2.2. Therefore, a Green rating applies.

Alignment Lengths

Alignment option 2.2 is 4.0 km in length and is just 5 % longer than the shortest alignment option. Therefore, a Green rating is applied.

DNO Crossings

Alignment option 2.2 crosses an 11 kV DNO line in the Redburn and River Glass area and is therefore given an Amber rating.

The Electricity Safety, Quality and Continuity Regulations (ESQCR) assessment

Based on a high-level ESQCR assessment as per PR-PS-311, the western portion of alignment option 2.2 appears to have a lower risk in comparison with alignment option 2.1. Therefore, an Amber rating is applied.



Table 5.14 Engineering RAG Rating Table for Alignment Option 2.2

	tu	struc re ssing	En	viror Des		ıtal	Col	oun d ndit on	n	structio and tenance		F	Proximit	у		Other			
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle of deviation	Clearance Distance	Windfarms	Communication Masts	Urban Environments	Metallic Pipes	Alignment Length	DNO Crossings	ESQCR	
2.2 OHL	M	L	Н	L	L	М	M	М	M	L	М	L	L	L	L	L	M	М	

5.5.5 Economic Considerations

Capital

Alignment option 2.2 has been rated Green for capital costs <u>as it is within 120% of least cost option</u>.

Operational

Alignment option 2.2 has been rated Green for operational costs <u>as it is within 120% of least cost option</u>.

Table 5.15 Summary RAG Rating Table for Alignment Option 2.2

Alignment Option	RAG Impact Rating - Cost									
Option	Capital	Operational								
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance								
2.2 OHL	L	L								



5.6 Alignment Option 2.3 (OHL)

5.6.1 Landscape and Visual Context

The landscape and visual constraints present within alignment option 2.3 are illustrated in **Figure 5.1 (Appendix C)**.

Designations

Alignment option 2.3 does not intersect any NSA, WLA, or SLA. The Ben Wyvis SLA is 2.8 km west of the alignment and is unlikely to be affected. Similarly, the Ben Wyvis Wild Land Area, also 2.3 km west, is not expected to be impacted. Therefore, a Green rating is applied.

Visual Amenity

The potential visual receptors include users of the core path at Swordale Hill and private views from properties at Redburn, Knockmartin, and Lynechork. The alignment may compromise views and visual amenity at these locations, resulting in an Amber rating.

5.6.2 Natural Heritage Context

The natural heritage designations present within alignment option 2.3 are illustrated in Figure 5.2 (Appendix C).

Designations

Alignment option 2.3 passes near several designated sites, with specific distances as follows:

- Novar SPA: 0.1 km N;
- Allt nan Caorach SSSI: 1.3 km N;
- Cromarty Firth SSSI, SPA & Ramsar Site: 3.2 km SE;
- Ben Wyvis SPA, SAC, SSSI, and NNR: 2.8 km W;
- Morangie Forest SPA: 10.1 km ENE;
- Moray Firth SPA: 15 km SE;
- Inner Moray Firth SPA Ramsar Site: 14.7 km SE; and
- Glen Affric to Strathconon SPA: 21.6 km SW.

Alignment option 2.3 passes through areas of ancient woodland and long-established plantation woodland and is located in close proximity to the above listed designated sites. There is the potential to compromise internationally or nationally designated areas and the conservation status of the designating features, for example by passing directly through Novar SPA. Therefore, a Red rating is applied.

Protected Species

European protected species in the area, potentially present across the alignment, include otter, wildcat, and bat species. The alignment is within a designated WPA. UK BAP species include red squirrel, pine marten, badger, and adder. SBL species include slow worm, common lizard, common toad, hedgehog, mountain hare, and brown hare.

Despite the designated WPA, it is assumed that through design, licensing, and best practice construction techniques, the Proposed Development is unlikely to compromise the conservation status or habitat for EPS or BAP/SBL species. A Green rating is therefore applied.



Habitat

There is limited peatland within the alignment option, making it unlikely to compromise Annex 1 habitats like blanket bog. Class 5 Peatland, recorded west of the alignment, lacks peatland vegetation but has carbon-rich soil and deep peat. Alignment option 2.3 is primarily Class 0 Peatland and consists of humus-iron podzols, with peaty gleys and dystrophic blanket peat in the west.

Category 1a and 2a ancient woodland is present within alignment option 2.3.

A Red rating is applied as the Proposed Development is likely to compromise ancient woodland by passing directly through it.

Geology, Hydrology and Hydrogeology

The alignment option 2.3 does not lie within 250 m of any PWS which are hydrologically connected to the option. The alignment passes through one WFD designated watercourse (River Glass). Surface water features, Loch J.U. and Loch Agoo, also lie within 250 m of the alignment. It passes through one surface water drinking protected area (River Glass - Cromarty Firth to Redburn).

There is no mapped Class 1 and 2 priority peatland throughout alignment option 2.3. The majority of the alignment is mapped as Class 0 mineral soil with no peatland vegetation, with a localised area of Class 5 peatland in the western extents. Phase 1 peat depth surveys indicate shallow soils (<0.5 m) with localised areas of peat (>0.5 m) in the west and central areas, and one location with deep peat (>1.5 m) near Loch J.U.

Bedrock substrate was frequently recorded.

An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Areas (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.

Ornithology

All designated sites and qualifying species have been evaluated and recorded in alignment option 2.3. The following statements highlight the distance of alignment option 2.3 to these sites and the bird species they support:

- Cromarty Firth SPA Ramsar Site (3.2 km SE): Supports bar-tailed godwit, red-breasted merganser, redshank, whooper swan, wigeon, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Ben Wyvis SPA (2.8 km WNW): Supports breeding dotterel.
- Morangie Forest SPA (10.1 km ENE): Supports capercaillie.
- Moray Firth SPA (15.0 km SE): Supports non-breeding red-throated diver, great northern diver, Slavonian grebe, wintering sea duck species, and breeding and nonbreeding shag.
- Inner Moray Firth SPA Ramsar Site (14.7 km SE): Supports osprey, greylag goose, redbreasted merganser, redshank, and a wintering bird assemblage of over 20,000 waders and wildfowl.
- Glen Affric to Strathconon SPA (21.6 km SW): Supports golden eagle.

Schedule 1 / Annex I and/or BoCC red-list species and SBL species with nesting territories/nest buffer zones within alignment option 2.3, and thereby with connectivity to the Proposed Development, include black grouse, capercaillie, and red kite.



Alignment option 2.3 has the potential to cause barrier and collision effects to qualifying SPA species, resulting in a Red rating.

5.6.3 Other Potential Environmental Constraints

Cultural Heritage

The cultural heritage constraints present within alignment option 2.3 are illustrated in **Figure 5.3 (Appendix C)**.

There are no GDL, Registered Battlefields, or World Heritage Sites within alignment option 2.3. There are no Scheduled Monuments within the alignment option 2.3. However, SM5007, Cladh Churadain chapel and burial ground, is located within 300 m. Within 5 km of alignment option 2.3, there are 9 Scheduled Monuments (including SM5007) and one GDL: GDL00303 Novar. As such, there is medium potential for impact to designations as a result of this alignment and therefore an Amber rating has been applied.

There are no Listed Buildings within alignment option 2.3, nor any Conservation Areas within 5 km. Within 5 km of alignment option 2.3, there are 2 Category A Listed Buildings, 17 Category B Listed Buildings, and 5 Category C Listed Buildings. No direct impacts to Listed Buildings are anticipated as a result of the alignment. Foulis Castle (LB7911 – Cat A) is located 3.2 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be impacted by introducing further modern transmission infrastructure into the wider landscape. Alignment option 2.3 is unlikely to introduce a significant impact on the cultural heritage assets, nor change the setting, due to the increased distance from the cultural heritage assets. As such, there is potential for a low impact on cultural heritage assets as a result of this alignment, therefore a Green rating is applied.

People

Alignment option 2.3 runs 1.4 km north of Swordale Cottages and is 0.5 km from Fannyfield House, 0.4 km from Assynt Cottages and 0.1 km from Redburn. The nearest point to Evanton is 1.6 km. Consequently, an Amber rating is applied.

Land Use and Recreation

Agricultural land within alignment option 2.3 has a land capability ranging between 6.3 near Swordale Hill and 4.2 to the east of Swordale Hill, therefore an Amber rating is applied.

A Red rating is applied for the forestry land use as alignment option 2.3 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.

Alignment option 2.3 is less than 0.1 km north of Swordale Hill core path, 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at the closest points. The Proposed Development may compromise their recreational use and therefore, an Amber rating is given.

Planning

There are numerous policies within the current Highland Council LDP on the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure. Alignment option 2.3 fully complies with national, regional, and local planning policies and does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications. Therefore, Alignment option 2.3 is assigned a Green Rating.



Table 5.16 Environmental RAG Rating Table for Alignment Option 2.3

					RA	G Impa	act Rat	ing - Env	/ironm	ental								
		Natural Heritage				Natural Heritage					tural tage	People	Land	scape	L	and Us	se	Planning
Alignment Option	Designations	Protected Species	Habitats	Geology, Hydrology and Hydrogeology	Ornithology	Designations	Cultural Heritage Assets	Proximity to People	Designations	Visual	Agriculture	Forestry	Recreation	Planning				
2.3 OHL	Н	L	Н	М	Н	М	L	М	L	М	М	Н	М	L				

5.6.4 Engineering Constraints

Major Crossings

Alignment option 2.3 crosses the River Glass. However, PR-NET-ENV-501 sets out a minimum width of 200 m for a river to be counted as a major infrastructure crossing and the average width of this river is around 15 - 25 m. Therefore, this river crossing can be discounted.

This alignment option also crosses the proposed LT132-ASTI 400kV OHL Loch Buidhe-Beauly and therefore, an Amber rating is applied.

Road Crossings

Alignment option 2.3 crosses Glen Glass Road and has 2 access track crossings. Therefore, a Green rating is applied.

Elevation

More than 25 % of alignment option 2.3 is above 200 m AOD and is therefore given a Red rating. However, in comparison with alignment options 2.1 and 2.2, this alignment option is the least favourable with 59 % of the alignment above 200 m AOD.

Atmospheric Pollution

Alignment option 2.3 experiences low pollution levels along the majority of its length for all pollutants investigated. Therefore, a Green rating is applied.

Contaminated Land

There is no known risk of soil contamination or UXO along alignment option 2.3. Therefore, a Green rating is applied.

Flooding

Alignment option 2.3 crosses the River Glass and 3.15 % of the total length of the alignment option is located within the 1-in-200-year flood zone. Therefore, an Amber rating is applied.

Terrain

Alignment option 2.3 has a slope gradient below 40 % and therefore an Amber rating applies. However, 5.1 % of the total length of this alignment option has a slope gradient of more than 20 %, which presents a challenge for wood pole construction.



Peatland

Due to 55.64 % of alignment option 2.3 falling within Class 5 peat, a Red rating has been assigned.

Access

The majority of the network in relation to alignment option 2.3 is located within 1 km of the existing Swordale Road. Therefore, an Amber rating applies.

Angle Supports

Alignment option 2.3 has approximately 9 angle structures and it is estimated that 9 angle poles would be required. The number of angle poles required for this alignment option is greater than 110% of the least number of poles required for alignment option 2.2. Therefore, a Red rating is applied.

Clearance

There is one property within 100-250 m of alignment option 2.3 located along the Glenn Glass Road. Therefore, an Amber rating is applied.

Wind Farms

Alignment option 2.3 is at a distance greater than 3 times the rotor diameter of the Abhainn Dhubh Wind Farm. Therefore, a Green rating is applied.

Communication Masts

Alignment option 2.3 is more than 1 km from the nearest telecoms mast at Evanton and does not interfere with the mast's line of sight. Therefore, a Green rating is applied.

Urban Developments

Alignment option 2.3 passes through a small town and while there are some settlements along the alignment, there are no real urban environments within it. Therefore, a Green rating is applied.

Metallic Pipes

There are no known metallic pipes within alignment option 2.3. Therefore, a Green rating applies.

Alignment Lengths

Alignment option 2.3 is 3.81 km in length and is the shortest alignment option. Therefore, a Green rating is applied.

DNO Crossings

Alignment option 2.3 crosses an 11 kV DNO line in the Redburn and River Glass area and is therefore given an Amber rating.

The Electricity Safety, Quality and Continuity Regulations (ESQCR) assessment

Based on a high-level ESQCR assessment as per PR-PS-311, the western portion of alignment option 2.3 appears to have a lower risk in comparison with alignment option 2.1. Therefore, an Amber rating is applied.



Table 5.17 Engineering RAG Rating Table for Alignment Option 2.3

	tu	struc ire ssing	En	viror Des		ıtal	Col	oun d ndit on	n	structio and tenance		P	Proximit	у			Other	
Alignment Option	Major Crossings	Minor Roads	Elevation	Atmospheric Pollution	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle of deviation	Clearance Distance	Windfarms	Communication Masts	Urban Environments	Metallic Pipes	Alignment Length	DNO Crossings	ESQCR
2.3 OHL	M	L	Н	L	L	М	M	Ι	M	Ι	M	L	L	L	L	L	M	M

5.6.5 Economic Considerations

Capital

Alignment option 2.3 has been rated Green for capital costs <u>as it is the least cost option</u>.

Operational

Alignment option 2.3 has been rated Green for operational costs <u>as it is the least cost option</u>.

Table 5.18 Costs RAG Rating Table for Alignment Option 2.3

Alignment	RAG Impact Rating - Cost	
Option	Capital	Operational
	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Inspections and Maintenance
2.3 OHL	L	L



6. SELECTION OF PREFERRED ALIGNMENT

6.1 Preferred Alignment

Eastern section prefers alignment option 1.3 (UGC)

Alignment options 1.1 (OHL), 1.2 (OHL), and 1.3 (UGC) in the eastern section each present significant environmental challenges, particularly in terms of natural and cultural heritage. Alignment options 1.1 and 1.2 are associated with high collision and barrier risks to the Novar SPA species due to being OHL and their proximity to sensitive sites. An additional OHL at a different height from the existing OHLs would be expected to increase the collective collision risk to target species accordingly. Both the OHL alignment options also pose notable risks to cultural heritage, including impacts on the Novar GDL and the Cladh Churadain nearby Scheduled Monument. In contrast, the underground alignment option 1.3 presents reduced impacts on cultural heritage designations and assets and has lower impact on landscape and visual amenity due to it being undergrounded. While during construction there is still a risk of disruption to the SPA species, and the agricultural land and water supply, its overall environmental impact is comparatively lower than the other options.

From an economic perspective, when comparing the three alignments with each other, alignment 1.2 is the cheapest option. Alignment 1.1 and 1.3 present significantly higher costs due to the expensive nature of the underground cable technology and installation, earning a Red rating for Capital. Alignment 1.1 is an OHL option but has a small section (approximately 500 m) of UGC due to the existing OHL infrastructure crossing. Both 1.1 and 1.3 also have an Amber rating for operational costs, reflecting maintenance expenses over time.

In summary, while all three options in the eastern section involve considerable environmental risks, UGC alignment option 1.3 offers a more balanced approach with fewer severe impacts than the OHL alignment options 1.1 and 1.2.

Western section prefers alignment option 2.3 (OHL)

Alignment options 2.1 (OHL), 2.2 (OHL), and 2.3 (OHL) in the western section all present significant environmental challenges, particularly in natural heritage, habitats, ornithology, and forestry. All the alignment options are located in close proximity to cultural heritage assets. Alignment option 2.1 is the alignment located the closest to Drumore Scheduled Monument, while all alignment options are located in close proximity to Cladh Schedule Monument. Alignment option 2.1 crosses the Swordale Hill core path, while option 2.3 is just 0.1 km away. Alignment option 2.3 is not located within 250 m of any PWS which are hydrologically connected and it is located within poorer quality agricultural land.

From an engineering perspective, alignment option 2.2 is the preferred alignment. It presents the least number of constraints, with more manageable elevation, moderate accessibility, reduced flood risk, less angle poles and moderate peatland exposure. The only notable challenge is its proximity to some residential properties, but overall, it is the most technically feasible alignment.

From an economic perspective, all three alignment options are broadly similar in costs, as they utilise the same technology (OHL), and are located within the same corridor. Given their comparable lengths, terrain conditions and constraints, there is no significant variation in either Capital or Operational expenditure across the options.

Overall, alignment option 2.3 offers a more balanced approach with fewer severe impacts, making it the preferred choice in the western section.



7. CONSULTATION ON THE PROPOSALS

7.1 Introduction

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

The proposals detailed in this report have been developed through environmental and technical analysis of various alignment options. The potential for environmental effects remains and further assessment and design will be important in giving detailed consideration to the development and integration of mitigation measures to address significant environmental effects identified.

When providing comment and feedback, SSEN Transmission would be grateful for your consideration of the questions below. We are keen to receive your views and comments in regard to the following:

- Do you feel sufficient information has been provided to enable you to understand what is being proposed and why?
- Which of the six alignment options would you consider the best option for SSEN Transmission to develop? Please provide an explanation of your answer.
- Which of the six alignment options would you consider the least preferable option for SSEN Transmission to develop? Please provide an explanation of your answer.
- Are there any potential risks or benefits associated with this project, that you believe have not been included in the Consultation Document?
- Do you have any other comments on the Project?

7.2 Next Steps

A public exhibition will be held on 24th June 2025 (see **Preface**), and meetings will be arranged with statutory and other stakeholders. The responses received, and those sought from statutory consultees and other key stakeholders will inform further consideration and design of the preferred alignment leading to the identification of a proposed alignment option to take forward to the alignment stage and consenting stages.

Please submit your comments to:

Lisa Marchi

Community Liaison Manager

SSEN Transmission

10 Henderson Road, Inverness IV1 1SA

Email: lisa.marchi@sse.com

Mobile: 07825 015 507

All comments are requested by 25th July 2025.



APPENDIX A ENVIRONMENTAL APPRAISAL OF ALIGNMENT OPTIONS





- 1.1.1 As discussed in **Section 3** of this report, the comparative appraisal of alignment options has involved systematic consideration against a number of environmental, technical and economic topic areas. This appendix provides further detail on the environmental topics under consideration.
- 1.1.2 A Red, Amber, Green (RAG) impact rating has been applied to each subject area indicating potential effects. This rating is based on a four-point scale as follows:

Performance	Comparative Appraisal	
Most Duefoused	No Impact	The development is unlikely to be constrained
Most Preferred	Lower Impact	Low potential for the development to be constrained
	Moderate Impact	Intermediate potential for the development to be constrained
Least Preferred	Higher Impact	High potential for the development to be constrained.



Alignment Option 1.1 – Red (OHL)

Description:		
•	1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain b 4 km NE towards the Fyrish Substation.	urial ground and
Review of Environ	mental Effects:	
Topics	Potential Impacts	RAG Impact Rating
Natural Heritage		
Designations	Novar SPA is situated 0.1 km north of alignment option 1.1. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie (<i>Tetrao urogallus</i>). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 1.2 % of the GB population. Alignment option 1.1 has the potential to result in collision risk and barrier effects.	
	The Allt nan Caorach SSSI is situated 2.9 km north of alignment option 1.1. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.	
	The Alness River Valley SSSI is situated 2.2 km east of alignment option 1.1. The SSSI is notified for upland mixed ash woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.	
	Cromarty Firth SSSI, SPA & Ramsar Site is situated 1.6 km SE of alignment option 1.1. The SSSI is designated for eight features: Bar-tailed godwit (<i>Limosa lapponica</i>), Red-breasted merganser (<i>Mergus serrator</i>), Redshank (<i>Tringa totanus</i>), Whooper swan (<i>Cygnus cygnus</i>), Wigeon (<i>Anas penelope</i>), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey (<i>Pandion haliaetus</i>), which forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (<i>Anser anser</i>) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 1.1 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.	Н
	The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 6.9 km of alignment option 1.1. The SPA is designated for supporting a nationally important population of breeding dotterel (<i>Charadrius morinellus</i>), which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 1.1 may compromise the qualifying features of the, including the potential to result in collision risk and barrier effects.	



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

Review of En	vironmental Effects:	
Topics	Potential Impacts	RAG Impact Rating
	Morangie Forest SPA is situated 5.5 km ENE of alignment option 1.1. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately 30 individuals, representing about 2.8 % of the GB population. Alignment option 1.1 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.	
	Moray Firth SPA is situated 15.5 km SE of alignment option 1.1. It is designated for supporting internationally important non-breeding populations of red-throated diver, (<i>Gavia stellata</i>), great northern diver, (<i>Gavia immer</i>) and Slavonian grebe (<i>Podiceps auritus</i>), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (<i>Phalocrocorax aristotelis</i>). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Inner Moray Firth SPA Ramsar Site is situated 15.3 km SE of alignment option 1.1. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012 studies recorded up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Dornoch Firth and Loch Fleet SPA & Ramsar Site is situated 17.1 km ENE of alignment option 1.1. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA, with up to 6 territories within feeding range (6% of the GB population), and 1 pair breeding within the site (1% of the GB population). The Dornoch Firth and Loch Fleet SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species including: greylag goose and widgeon. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.1. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (<i>Aquila chrysaetos</i>) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

Review of Environmental Effects: Topics Potential Impacts RAG Impact Rating Alignment option 1.1 passes through areas of long-established plantation woodland 2b in its central and eastern section. The alignment passes through areas of native pinewood and upland birchwood in its central and eastern section. Conclusion Alignment option 1.1 is given a Red rating as it passes directly through long-established plantation woodland and has the potential to cause collision and barrier effects to qualifying SPA species. **Protected Species** European protected species known to occur in the area, which may therefore be present across the alignment include otter (Lutra lutra), wildcat (Felis silvestris grampia), and various bat species. There is a designated Wildcat Protection Area covering approximately 50% of the alignment in the west. UK BAP species including red squirrel (Sciurus vulgaris), pine marten (Martes martes), badger (Meles meles), and adder (Vipera berus). SBL species including slow worm (Anguis fragilis), common lizard (Zootoca vivipara), common toad (Bufo bufo), hedgehog (Erinaceus europaeus), mountain hare (Lepus timidus) and brown hare (Lepus europaeus). Conclusion Despite the designated Wildcat Protected Area within 50% of the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing, and best practice construction techniques the project is unlikely to compromise the conservation status, known presence, or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied. Habitats There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to compromise the integrity of Annex 1 habitats including blanket bog and GWDTE. Alignment option 1.1 component soils are primarily made up of humus-iron podzols. SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is no ancient woodland of Category 1a or 2a within the alignment. Conclusion A Green rating is applied as the project is not likely to compromise the conservation status of Annex 1 habitats.



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

Review of Environmental Effects: **RAG Impact Rating Topics Potential Impacts** Geology, Hydrology There are two private water supplies (PWS) within 250 m of alignment option 1.1, PWS Novar Estate and PWS Novar - Mains and Hydrogeology Cottage. The alignment option does not pass through any Water Framework Directive (WFD) designated watercourses therefore a WFD assessment is not required as part of any Environmental Impact Assessment (EIA). This alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn). There is no mapped Class 1 and 2 priority peatland throughout alignment option 1.1. The majority of the alignment is mapped as mineral soil with no peatland vegetation. In addition, there is a localised area of mapped Class 5 peatland situated in the western extent of alignment option 1.1. Class 5 is indicative of soils that are carbon rich, potential deep peat, bare soils and no recorded peatland vegetation or habitats. Phase 1 peat depth surveys have been undertaken across alignment option 1.1 to provide an initial understanding of peat throughout this area. Results from these surveys indicate that the majority of the alignment option is situated across shallow soils (<0.5 m) with a localised area of peat (>0.5 m) in the west, situated to the south of the alignment option. Peat data has not been collected throughout the areas in the centre and west of this alignment option due to the presence of steep slopes where peat does not accumulate and farmland which is typically comprised of shallow soils. In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate. Conclusion An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply. Ornithology Ben Wyvis SPA is situated 6.9 km WNW of alignment option 1.1. It is designated for supporting an internationally important population of breeding dotterel. Cromarty Firth SPA & Ramsar Site is situated 1.6 km SE of alignment option 1.1. It is designated for supporting internationally important breeding populations of osprey, and common tern (Sterna hirundo), together with internationally important populations of (migratory) greylag goose, whooper swan, and bar-tailed godwit. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl.



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

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Revie	ew or	Envir	onmen	tai e	nects:

Topics	Potential Impacts	RAG Impact Rating
	Dornoch Firth and Loch Fleet SPA & Ramsar Site is situated 17.1 km ENE of alignment option 1.1. It is designated for supporting internationally important breeding populations of osprey, together with internationally important populations of (migratory) greylag goose and bar-tailed godwit. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.1. It is designated for supporting an internationally important population of golden eagle.	
	Inner Moray Firth SPA Ramsar Site is situated 15.3 km SE of alignment option 1.1. It is designated for supporting internationally important breeding populations of osprey and common tern, together with internationally important populations of (migratory) greylag goose, red-breasted merganser, and redshank. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl.	
	Morangie Forest SPA is situated 5.5 km ENE of alignment option 1.1. It is designated for supporting an internationally important population of capercaillie.	
	Moray Firth SPA is situated 15.5 km SE of alignment option 1.1. It is designated for supporting internationally important non-breeding populations of red-throated diver, great northern diver and Slavonian grebe together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag.	
	Novar SPA is situated 0.1 km N of alignment option 1.1. It is designated for its nationally important population of breeding capercaillie.	
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within recognised disturbance distances to alignment option 1.1, and thereby with connectivity to the Proposed Development include:	
	black grouse (<i>Lyrurus tetrix</i>);	
	capercaillie (<i>Tetrao urogallus</i>);	
	osprey (Pandion haliaetus); and	
	• red kite (<i>Milvus milvus</i>).	
	Conclusion	
	Alignment option 1.1 has the potential to cause barrier and collision effects to qualifying SPA species, and a Red rating is applied.	



Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
Cultural Heritage		
Designations	Designated Assets:	
	There are no Registered Battlefields or World Heritage Sites within or within 5 km of alignment option 1.1.	
	Within alignment option 1.1 there is one Garden and Designed Landscape (GDL):	
	• GDL00303 Novar.	
	There are no Scheduled Monuments within proposed alignment option 1.2. However, SM5007, Cladh Churadain, chapel and burial ground is located within 200 m to the north.	
	Within 5 km of alignment option 1.1. there are:	
	14 Scheduled Monuments (incl. SM5007); and	
	One Garden and Designed Landscape: GDL00023 Ardross Castle.	
	Non-designated assets:	
	There is one non-designated asset identified from the Canmore Database, located within 50 m of alignment option 1.1, a post-medieval quern stone. The likelihood of encountering buried archaeology is elevated given the wider landscape context, specifically in the area surrounding SM5007.	Н
	Direct:	
	There is the potential to marginally physically / directly impact within the designated Novar GDL boundary where there is 'some' archaeological value, and non-designated assets. Additionally, there remains the potential to oversail and/or interact in close proximity to designated assets. There also remains the potential to directly impact previously unknown buried archaeological remains based on the landscape context of the alignment. Further, the likelihood of encountering buried archaeology is higher around the area of the scheduled Monument (SM5007), known non-designated asset and within the Novar GDL.	
	Indirect and Setting:	
	There remains the significant potential to introduce effects to setting for designated assets as a result of changes to the visual sphere and character of the area.	
	Conclusion	
	As such, there is the potential for a high impact to designations as a result of this alignment and a Red rating has been applied.	



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

chaper, travelling 5.	4 km NE towards the Fyrish Substation.	
Review of Environ	mental Effects:	
Topics	Potential Impacts	RAG Impact Rating
Cultural Heritage Assets	There are no Conservation Areas within or within 5 km of alignment option 1.1. There are no Listed Buildings within alignment option 1.1. Within 5 km of alignment option 1.1. there are: • 6 Category A Listed Buildings; • 35 Category B Listed Buildings; and • 18 Category C Listed Buildings. Direct Impacts: No direct impacts to Listed Buildings are anticipated as a result of the alignment. However, there remains the potential to oversail and/or interact in close proximity to designated assets. Indirect and Setting: There remains the likely potential to introduce effects to the setting of Listed Buildings, as an element of the GDL, and as a result of changes to the landscape visibility and character of the area. Foulis Castle (LB7911 – Cat A) is located approximately 2.9 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be potentially impacted by introducing further modern transmission infrastructure into the wider landscape. Conclusion	M
Page	As such, there is the potential for a moderate impact to cultural heritage assets as a result of this alignment and an Amber rating is applied.	
People		
Proximity to dwellings	Alignment option 1.1 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.3 km south at the closest point, and Novar House, located 0.5 km south at the closest point. The small towns of Evanton and Alness are 1.3 km away at the nearest point. Therefore, an Amber rating is applied.	M
Landscape and Vi	sual Amenity	
Designations	Alignment 1.1 OHL does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA). The Ben Wyvis Special Landscape Area designated by The Highland Council is located 8 km to the west of the alignment at the closest point. The alignment is unlikely compromise the special qualities of this designation.	M



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

Review of Environmental Effects: RAG Impact Rating Topics Potential Impacts The Ben Wyvis Wild Land Area is located 8 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation. The alignment passes through the northern part of the Novar Garden & Designed Landscape and may compromise the qualities of the designation. Conclusion Based upon the above an Amber rating is applied for impacts upon the GDL. Visual Amenity The potential visual receptors are: Visitors to Fyrish Monument lookout; Users of Core paths to the south; Private views from Mains of Novar and Evanton / Baile-Eoghain; and Travellers along the A9 to the south. The alignment may compromise views and visual amenity at the above locations, however from the key sensitive areas existing infrastructure is present so therefore an Amber rating is applied. Land Use Agriculture Agricultural land within alignment option 1.1 has a land capability ranging from 6.2 in the west to 4.1 in the east, likely compromising its agricultural use and viability. Therefore, a Red rating has been applied. Alignment option 1.1 crosses a small section of conifer plantation woodland towards the west and is likely to result in sufficient loss Forestry of woodland to tree felling/wayleave clearance activities so as to compromise the commercial viability of the forestry operation. Therefore, a Red rating is applied. Recreation Alignment option 1.1 is 1 km south of the Fyrish core path, 0.6 km northwest of Novar Green Road and Novar Quarry core paths, and 0.5 km northwest of Black Rock Gorge and Evanton Woods core paths at the closest points at the closest point. Therefore, a Green rating has been applied.



Alignment option 1.1 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, traveling 5.4 km NE towards the Fyrish Substation.

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Review of Environm	ental Effects:	
Topics	Potential Impacts	RAG Impact Rating
Planning		
Planning	Alignment option 1.1 is in full compliance with national, regional and local applicable planning policy. A Green rating has been applied as the alignment option does not interact with other third-party proposals known to the planning system such as the Ceislein Wind Farm application and Creachan Wind Farm application.	L



Alignment Option 1.2 - Blue (OHL)

Description: Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation. **Review of Environmental Effects: Topics Potential Impacts RAG Impact Rating Natural Heritage** Novar SPA is situated within alignment option 1.2. The SPA qualifies under Article 4.1 by regularly supporting a breeding Designations population of European importance of the Annex I species capercaillie (Tetrao urogallus). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 1.2 % of the GB population. Alignment option 1.2 has the potential to result in collision risk and barrier effects. The Allt nan Caorach SSSI is situated 2.9 km north of alignment option 1.2. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it. The Alness River Valley SSSI is situated 2.2 km east of alignment option 1.2. The SSSI is notified for upland mixed ash woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it. Cromarty Firth SSSI, SPA & Ramsar Site is situated 1.6 km SE of alignment option 1.2. The SSSI is designated for eight features: Bar-tailed godwit (Limosa lapponica), Red-breasted merganser (Mergus serrator), Redshank (Tringa totanus), Whooper swan (Cygnus cygnus), Wigeon (Anas penelope), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey (Pandion haliaetus) forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (Anser anser) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 1.2 may compromise the gualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects. The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 6.9 km of alignment option 1.2. The SPA is designated for supporting a nationally important population of breeding dotterel (Charadrius morinellus) which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 1.2 has the potential to result in collision risk and barrier effects. Alignment option 1.2 may compromise the qualifying features of the site

by passing within 2 km to it, including the potential to result in collision risk and barrier effects.



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

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Review	or En	vironr	nentai	Effects:	

Topics	Potential Impacts	RAG Impact Rating
	Morangie Forest SPA is situated 5.55 km ENE of alignment option 1.2. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately 30 individuals, representing about 2.8 % of the GB population. Alignment option 1.2 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.	
	Moray Firth SPA is situated 15.9 km SE of alignment option 1.2. It is designated for supporting internationally important non-breeding populations of red-throated diver (<i>Gavia stellata</i>), great northern diver (<i>Gavia immer</i>), and Slavonian grebe (<i>Podiceps auritus</i>), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (<i>Phalocrocorax aristotelis</i>). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Inner Moray Firth SPA Ramsar Site is situated 15.6 km SE of alignment option 1.2. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012, up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Dornoch Firth and Loch Fleet SPA & Ramsar Site is situated 17.1 km ENE of alignment option 1.2. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA, up to 6 territories within feeding range, 6% of the GB population, with 1 pair breeding within the site, 1% of the GB population). The Dornoch Firth and Loch Fleet SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species including: greylag goose and widgeon. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.2. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (<i>Aquila chrysaetos</i>) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

Review of Environmental Effects:			
Topics	Potential Impacts	RAG Impact Rating	
	Alignment option 1.2 passes through multiple areas of long-established plantation woodland 2b.		
	Conclusion		
	Alignment option 1.2 is given a Red rating as it passes directly through long-established plantation woodland and has the potential to cause collision and barrier effects to qualifying SPA species.		
Protected Species	European protected species known to occur in the area, which may therefore be present across the alignment include otter, wildcat (<i>Felis silvestris grampia</i>) and bat species. There is a designated Wildcat Protection Area covering approximately 50% of the alignment in the west.		
	UK BAP species including red squirrel (<i>Sciurus vulgaris</i>), pine marten (<i>Martes martes</i>), badger (<i>Meles meles</i>), and adder (<i>Vipera berus</i>). SBL species including slow worm (<i>Anguis fragilis</i>), common lizard (<i>Zootoca vivipara</i>), common toad (<i>Bufo bufo</i>), hedgehog (<i>Erinaceus europaeus</i>), mountain hare (<i>Lepus timidus</i>) and brown hare (<i>Lepus europaeus</i>).	L	
	Conclusion		
	Despite the designated Wildcat Protected Area within 50% of the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing and best practice construction techniques the project is unlikely to compromise the conservation status or known presence or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied.		
Habitats	There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to compromise the integrity of Annex 1 habitats including blanket bog and GWDTE.		
	Class 5 Peatland is recorded in the central section the alignment. The description of Class 5 peatland is that soil information takes precedence over vegetation data, an area where there is no peatland vegetation and therefore no peatland habitat has been recorded. This may include areas of bare soil, where the soil is carbon-rich and deep peat present. Alignment option 1.2 component soils are primarily made up of humus-iron podzols.	L	
	SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is no ancient woodland of Category 1a or 2a within the alignment.		
	Conclusion		
	A Green rating is applied as the project is not likely to compromise the conservation status of Annex 1 habitats.		



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

Review of Environmental Effects: **RAG Impact Rating Topics Potential Impacts** Geology, Hydrology There are no private water supplies within alignment option 1.2 nor within 250 m of the alignment. and Hydrogeology The alignment option does not pass through any Water Framework Directive (WFD) designated watercourses therefore no WFD assessment is required as part of any Environmental Impact Assessment (EIA). This alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn). There is no mapped Class 1 and 2 priority peatland throughout alignment option 1.2. The alignment option is mapped as mineral soil with no peatland vegetation. Phase 1 peat depth surveys have been undertaken across alignment option 1.2 to provide an initial understanding of peat throughout this area. Results from these surveys indicate that the alignment option is situated across shallow soils (<0.5 m) with no peat recorded along or directly adjacent to the alignment. In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate. Conclusion An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply. Ornithology All designated sites and gualifying species have been evaluated and recorded in alignment option 1.1. The below statements highlight the distance of alignment option 1.2 to these Sites: Ben Wyvis SPA is situated 6.9 km WNW of alignment option 1.2; Cromarty Firth SPA Ramsar Site is situated 2.1 km SE of alignment option 1.2; Dornoch Firth and Loch Fleet SPA Ramsar Site is situated 17.1 km ENE of alignment option 1.2; Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.2; Inner Moray Firth SPA Ramsar Site is situated 15.6 km SE of alignment option 1.2; Morangie Forest SPA is situated 5.55 km ENE of alignment option 1.2; Moray Firth SPA is situated 15.9 km SE of alignment option 1.2; and Novar SPA is extensively within alignment option 1.2.



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

Review of Envir	ronmental Effects:	
Topics	Potential Impacts	RAG Impact Rating
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within alignment option 1.2, and thereby with connectivity to the Proposed Development include:	
	black grouse (Lyrurus tetrix);	
	capercaillie (<i>Tetrao urogallus</i>);	
	osprey (Pandion haliaetus); and	
	red kite (<i>Milvus milvus</i>).	
	Conclusion	
	Alignment option 1.2 has the potential to cause barrier and collision effects to qualifying SPA species, and a Red rating is applied.	
Cultural Heritag	je	
Designations	Designated Assets:	
	There are no Registered Battlefields or World Heritage Sites within or within 5 km of alignment option 1.2.	
	Within alignment option 1.2 there is one Garden and Designed Landscape (GDL):	
	GDL00303 Novar.	
	There are no Scheduled Monuments within proposed alignment option 1.2. However, SM5007, Cladh Churadain, chapel and burial ground is located within 120 m to the north of the alignment.	
	Within 5 km of alignment option 1.2 there are:	H
	 14 Scheduled Monuments (incl. SM5007); and 	
	 One Garden and Designed Landscape: GDL00023 Ardross Castle. 	
	Non-designated assets:	
	There are no non-designated assets identified from the Canmore Database, located within 50 m of alignment option 1.2. However, the likelihood of encountering buried archaeology is elevated given the wider landscape context, specifically in the	

area surrounding SM5007.



Review of Environmental Effects:

Description:

Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

RAG Impact Rating Topics Potential Impacts Direct: There is the potential to marginally physically / directly impact within the designated Novar GDL boundary where there is 'some' archaeological value, and non-designated assets. Additionally, there remains the potential to oversail and/or interact in close proximity to designated assets. There also remains the potential to directly impact previously unknown buried archaeological remains based on the landscape context of the alignment. Further, the likelihood of encountering buried archaeology is higher around the area of the Scheduled Monument (SM5007), known non-designated assets and within the Novar GDL. Indirect and Setting: There remains the significant potential to introduce effects to setting for designated assets as a result of changes to the visual sphere and character of the area. Conclusion As such, there is the potential for a high impact to designations as a result of this alignment and a Red rating has been applied. Cultural Heritage There are no Listed Buildings within alignment option 1.2. Assets There are no Conservation Areas within or within 5 km of alignment option 1.2. Within 5 km of alignment option 1.2 there are: 6 Category A Listed Buildings; 35 Category B Listed Buildings; and

oversail and/or interact in close proximity to designated assets.

Indirect and Setting: There remains the likely potential to introduce effects to the setting of Listed Buildings, as an element of the GDL, and as a result of changes to the landscape visibility and character of the area. Foulis Castle (LB7911 – Cat A) is located approximately 2.9 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be impacted by introducing further modern transmission infrastructure into the wider landscape.

Direct: No direct impacts to Listed Buildings are anticipated as a result of the alignment. However, there remains the potential to

As such, there is the potential for a moderate impact to cultural heritage assets as a result of this alignment and an Amber rating is applied.

18 Category C Listed Buildings.



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

chapel. It proceeds s	slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substa	ation.	
Review of Environr	Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating	
People			
Proximity to dwellings	Alignment option 1.2 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.4 km south at the closest point, and Novar House, located 0.9 km south at the closest point. The small towns of Evanton and Alness are 1.3 km away at the nearest point. Therefore, an Amber rating is applied.	M	
Landscape and Vis	eual Amenity		
Designations	Alignment 1.2 OHL does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA).		
	The Ben Wyvis Special Landscape Area designated by The Highland Council is located 8 km to the west of the alignment at the closest point. The alignment is unlikely to compromise the special qualities of this designation.		
	The Ben Wyvis Wild Land Area is located 8 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation.	M	
	The alignment passes through the northern part of the Novar Designed Landscape and may compromise the qualities of the designation.		
	Based upon the above an Amber rating is applied for impacts upon the designed landscape.		
Visual Amenity	The potential visual receptors are:		
	Visitors to Fyrish Monument lookout;		
	Users of Core paths to the south;		
	Private views from Mains of Novar and Evanton/ Baile-Eoghain; and	M	
	Travellers along the A9 to the south.		
	The alignment may compromise views and visual amenity at the above locations, however from the key sensitive areas existing infrastructure is present so therefore an Amber rating is applied.		
Land Use			
Agriculture	Agricultural land within alignment option 1.2 has a land capability ranging between 6.2 and 4.1 and is likely to compromise the areas agricultural use and viability. Therefore, a Red rating has been applied.	Н	



Alignment option 1.2 is an OHL which begins at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. It proceeds slightly further north than alignment option 1.1, maintaining a similar parallel trajectory extending 5.2 km NE towards the Fyrish Substation.

Review of Environmental Effects:

Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
Forestry	An Amber rating is applied as alignment option 1.2 passes through conifer and broadleaf plantation woodland but avoids areas of commercial forestry.	M
Recreation	Alignment option 1.2 is 0.6 km south of the Fyrish core path, 0.6 km northwest of Novar Green Road and Novar Quarry core paths, and 0.5 km northwest of Black Rock Gorge and Evanton Woods core paths at the closest points. Therefore, a Green rating has been applied.	L
Planning		
Planning	Alignment option 1.2 fully complies with national, regional, and local planning policies. A Green rating has been applied as the alignment option does not interact with other third-party proposals known to the planning system such as the Ceislein Wind Farm application and Creachan Wind Farm application.	L



Alignment option 1.3 - Black (UGC)

Description:

Alignment option 1.3 is an UGC which starts 0.6 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel, where it travels in a straight line for 5.3 km towards Fyrish Substation.

Review of Environmental Effects:

Topics Potential Impacts RAG Impact Rating

Natural Heritage

Designations

Novar SPA is situated 0.1 km north of alignment option 1.3. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie (*Tetrao urogallus*). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 1.3 % of the GB population.



The Allt nan Caorach SSSI is situated 2.9 km north of alignment option 1.3. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it. The Alness River Valley SSSI is situated 2.2 km east of alignment option 1.3. The SSSI is notified for upland mixed ash woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.

Cromarty Firth SSSI, SPA & Ramsar Site is situated 1.7 km SE of alignment option 1.3. The SSSI is designated for eight features: Bar-tailed godwit (*Limosa lapponica*), Red-breasted merganser (*Mergus serrator*), Redshank (*Tringa totanus*), Whooper swan (*Cygnus cygnus*), Wigeon (*Anas penelope*), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (*Anser anser*) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 1.3 may compromise the qualifying features of the site by passing within 2 km to it.

The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 7.2 km of alignment option 1.3. The SPA is designated for supporting a nationally important population of breeding dotterel (*Charadrius morinellus*) which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 1.3 may compromise the qualifying features of the site by passing within 2 km to it.

Morangie Forest SPA is situated 5.3 km ENE of alignment option 1.3. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately



where it trav	where it travels in a straight line for 5.3 km towards Fyrish Substation.	
Review of E	Review of Environmental Effects:	
Topics	Potential Impacts	RAG Impact Rating
	30 individuals, representing about 2.8 % of the GB population. Alignment option 1.3 may compromise the qualifying features of the site by passing within 2 km to it.	
	Moray Firth SPA is situated 16 km SE of alignment option 1.3. It is designated for supporting internationally important non-breeding populations of red-throated diver, (<i>Gavia stellata</i>), great northern diver, (<i>Gavia immer</i>) and Slavonian grebe (<i>Podiceps auritus</i>), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (<i>Phalocrocorax aristotelis</i>). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Inner Moray Firth SPA Ramsar Site is situated 15.7 km SE of alignment option 1.3. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012, up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Dornoch Firth and Loch Fleet SPA & Ramsar Site is situated 16.9 km ENE of alignment option 1.3. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA, up to 6 territories within feeding range, 6% of the GB population, with 1 pair breeding within the site, 1% of the GB population). The Dornoch Firth and Loch Fleet SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species including: greylag goose and widgeon. The site is also designated for its wintering bird assemblage, holding in excess of 20,000 waders and wildfowl. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.3. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (<i>Aquila chrysaetos</i>) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	



Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
Topics	Alignment option 1.3 passes through areas of long-established plantation woodland 2b in its central and eastern section. The alignment passes through areas of native pinewood and upland birchwood in its central and eastern section.	RAG impact Rating
	Conclusion Alignment option 1.3 is given a Red rating as it passes directly through long-established plantation woodland and has the potential to cause barrier effects to qualifying SPA species.	
Protected Species	European protected species known to occur in the area, which may therefore be present across the alignment include otter (<i>Lutra lutra</i>), wildcat (<i>Felis silvestris grampia</i>) and bat species. There is a designated Wildcat Protection Area covering approximately 50% of the alignment in the west.	
	UK BAP species including red squirrel (<i>Sciurus vulgaris</i>), pine marten (<i>Martes martes</i>), badger (<i>Meles meles</i>), and adder (<i>Vipera berus</i>). SBL species including slow worm (<i>Anguis fragilis</i>), common lizard (<i>Zootoca vivipara</i>), common toad (<i>Bufo bufo</i>), hedgehog (<i>Erinaceus europaeus</i>), mountain hare (<i>Lepus timidus</i>) and brown hare (<i>Lepus europaeus</i>).	L
	Conclusion Despite the designated Wildcat Protected Area within 50% of the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing and best practice construction techniques the project is unlikely to compromise the conservation status or known presence or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied.	
Habitats	There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to compromise the integrity of Annex 1 habitats including blanket bog and GWDTE. Alignment option 1.3 component soils are primarily made up of humus-iron podzols.	
	SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is no ancient woodland of Category 1a or 2a within the alignment.	L
	Conclusion A Green rating is applied as the project is not likely to compromise the conservation status of Annex 1 habitats	
Geology, Hydrology and Hydrogeology	There are two private water supplies within 250 m of alignment option 1.3, PWS Novar Estate and PWS Novar - Mains Cottage.	M



Review of En	vironmental Effects:	
Topics	Potential Impacts	RAG Impact Rating
	The alignment option does not pass through any Water Framework Directive (WFD) designated watercourses therefore no WFD assessment is required as part of any Environmental Impact Assessment (EIA).	
	This alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn).	
	There is no mapped Class 1 and 2 priority peatland throughout alignment option 1.3. The alignment option is mapped as mineral soil with no peatland vegetation.	
	Phase 1 peat depth surveys have been undertaken across alignment option 1.3 to provide an initial understanding of any potential peat throughout this area. Results from these surveys indicate that the alignment option is situated across shallow soils (<0.5 m) with no peat recorded along or directly adjacent to the route. The majority of the west and central areas of the alignment option are situated across farmland with shallow soils and no peat present.	
	In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate.	
	Conclusion	
	An Amber rating is applied as this alignment option passes through two Surface Water Drinking Protected Areas (Allt Duach and River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.	
Ornithology	All designated sites and qualifying species have been evaluated and recorded in alignment option 1.1. The below statements highlight the distance of alignment option 1.3 to these Sites:	
	Ben Wyvis SPA is situated 7.2 km WNW of alignment option 1.3;	
	 Cromarty Firth SPA Ramsar Site is situated 1.7 km SE of alignment option 1.3; 	
	 Dornoch Firth and Loch Fleet SPA Ramsar Site is situated 16.9 km ENE of alignment option 1.3; 	D. 4
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 1.3;	M
	 Inner Moray Firth SPA Ramsar Site is situated 15.7 km SE of alignment option 1.3; 	
	Morangie Forest SPA is situated 5.3 km ENE of alignment option 1.3;	
	Moray Firth SPA is situated 16.0 km SE of alignment option 1.3; and	
	Novar SPA is situated 0.1 km N of alignment 1.3.	



where it travels	in a straight line for 5.3 km towards Fyrish Substation.		
Review of Env	Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating	
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within alignment option 1.3, and thereby with connectivity to the Proposed Development include:		
	black grouse (<i>Lyrurus tetrix</i>);		
	capercaillie (<i>Tetrao urogallus</i>);		
	osprey (Pandion haliaetus); and		
	• red kite (<i>Milvus milvus</i>).		
	Conclusion		
	Alignment option 1.3 has the potential to cause disturbance and displacement effects to qualifying SPA species, though these can be mitigated through timing of construction works and application of protected species plans and therefore an Amber rating is applied		
Cultural Herita	nge		
Designations	Designated Assets:		
	There are no Registered Battlefields or World Heritage Sites within or within 5 km of alignment option 1.3.		
	Within alignment option 1.3 there is one Garden and Designed Landscape (GDL):		
	• GDL00303 Novar.		
	There are no Scheduled Monuments within proposed alignment option 1.3. However, SM5007, Cladh Churadain, chapel and burial ground is located within 200 m to the north of the alignment.		
	Within 5 km of alignment option 1.3 there are:	M	
	13 Scheduled Monuments (incl. SM5007); and		
	One Garden and Designed Landscape: GDL00023 Ardross Castle.		
	Non-designated assets:		
	There is one non-designated asset identified from the Canmore Database, located within 50 m of alignment option 1.3, a post-medieval farmhouse at Fyrish. The likelihood of encountering buried archaeology is elevated given the wider landscape context, specifically in the area surrounding SM5007.		



Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
	Direct:	
	There is the potential to physically / directly impact within the designated Novar GDL boundary where there is 'some' archaeological value, and non-designated assets. Additionally, there remains the potential to interact in close proximity to designated assets. There also remains the potential to directly impact previously unknown buried archaeological remains based on the landscape context of the alignment. Further, the likelihood of encountering buried archaeology is higher around the area of the Scheduled Monument (SM5007), known non-designated assets and within the Novar GDL.	
	Indirect and Setting:	
	There is a potential to introduce temporary effects to setting for designated assets as a result of changes to the visual sphere and character of the area during construction. Any effects to setting as a result of this alignment will be temporary during construction, it is not anticipated that impact to setting will remain beyond this period.	
	Conclusion	
	As such, there is the potential for a moderate impact to designations as a result of this alignment and an Amber rating has been applied.	
Cultural	There are no Listed Buildings within alignment option 1.3.	
Heritage	There are no Conservation Areas within or within 5 km of alignment option 1.3.	
Assets	Within 5 km of alignment option 1.3 there are:	
	6 Category A Listed Buildings;	
	33 Category B Listed Buildings; and	
	19 Category C Listed Buildings.	L
	Direct: No direct impacts to Listed Buildings are anticipated as a result of the alignment.	
	Indirect and Setting: There remains a low potential to introduce temporary effects to the setting of Listed Buildings, as an element of the GDL, and as a result of changes to the landscape visibility and character of the area during construction. Any effects to setting as a result of this alignment will be temporary during construction, it is not anticipated that impact to setting will remain beyond this period.	
	Conclusion	



where it travels in a straight line for 5.3 km towards Fyrish Substation.			
Review of Envi	Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating	
	As such, there is the potential for a lower impact to cultural heritage assets as a result of this alignment and a Green rating is applied.		
People			
Proximity to dwellings	Alignment option 1.3 passes near scattered settlements along Glenglass Road. Nearby properties include Assynt House, located 0.2 km south at the closest point, and Novar House, located 0.5 km south at the closest point. The small towns of Evanton and Alness are 1.2 km away at the nearest point. Therefore, an Amber rating is applied.	M	
Landscape and	l Visual Amenity		
Designations	Alignment 1.3 UGC does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA).		
	The Ben Wyvis Special Landscape Area designated by The Highland Council is located 8 km to the west of the alignment at the closest point. The alignment is unlikely to compromise the special qualities of this designation.		
	The Ben Wyvis Wild Land Area is located 8 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation.	L	
	The alignment passes through the northern part of the Novar Garden & Designed Landscape however being underground is unlikely to compromise the qualities of the designation.		
	Conclusion		
	Based upon the above a Green rating is applied.		
Visual Amenity	The alignment is unlikely to compromise views and visual amenity due to being underground, therefore a Green rating is applied.	L	
Land Use			
Agriculture	Agricultural land within alignment option 1.3 has a land capability between 4.2 and 6.2 and is likely to compromise the agricultural use/viability of the land as an agricultural resource. Therefore, a Red rating is applied.	Н	
Forestry	A Green rating is applied as alignment option 1.3 passes through conifer and broadleaf woodland but there are no areas of commercial forestry in the alignment.	L	



where it travels	where it travels in a straight line for 5.3 km towards Fyrish Substation.		
Review of Environmental Effects:			
Topics	Potential Impacts	RAG Impact Rating	
Recreation	Alignment option 1.3 is 0.8 km south of the Fyrish core path and 0.7 km northwest of Novar Green Road, Novar Quarry, Black Rock Gorge and Evanton Woods core paths at the closest points. Therefore, a Green rating is applied.	L	
Planning			
Planning	Alignment option 1.3 fully complies with national, regional, and local planning policies. A Green rating has been applied as the alignment option does not interact with other third-party proposals known to the planning system such as the Ceislein Wind Farm application and Creachan Wind Farm application.	L	



Alignment Option 2.1 – Yellow (OHL & UGC)

Description:

Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics Potential Impacts RAG Impact Rating

Natural Heritage

Designations

Novar SPA is situated 0.1 km north of alignment option 2.1. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie (*Tetrao urogallus*). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 2.1 % of the GB population. Alignment option 2.1 has the potential to result in collision risk and barrier effects.



The Allt nan Caorach SSSI is situated 1.3 km north of alignment option 2.1. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.

Cromarty Firth SSSI, SPA & Ramsar Site is situated 3.2 km SE of alignment option 2.1. The SSSI is designated for eight features: Bar-tailed godwit (*Limosa lapponica*), Red-breasted merganser (*Mergus serrator*), Redshank (*Tringa totanus*), Whooper swan (*Cygnus cygnus*), Wigeon (*Anas penelope*), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey (*Pandion haliaetus*) forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (*Anser anser*) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 2.1 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.

The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 2.8 km of alignment option 2.1. The SPA is designated for supporting a nationally important population of breeding dotterel (*Charadrius morinellus*) which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 2.1 has the potential to result in collision risk and barrier effects. Alignment option 2.1 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics	Potential Impacts	RAG Impact Rating
	Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.1. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately 30 individuals, representing about 2.8 % of the GB population. Alignment option 2.1 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.	
	Moray Firth SPA is situated 15 km SE of alignment option 2.1. It is designated for supporting internationally important non-breeding populations of red-throated diver, (<i>Gavia stellata</i>), great northern diver, (<i>Gavia immer</i>) and Slavonian grebe (<i>Podiceps auritus</i>), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (<i>Phalocrocorax aristotelis</i>). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.1. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012 surveys record up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.1. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (<i>Aquila chrysaetos</i>) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Alignment option 2.1 passes through two areas of Ancient (of semi-natural origin) woodland 2a. The alignment passes through areas of upland birchwood in its central section and wet woodland in its eastern and western sections.	
	Conclusion Alignment option 2.1 is given a Red rating as it passes directly through long-established plantation woodland and has the potential to cause collision and barrier effects to qualifying SPA species.	



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel. Review of Environmental Effects:		
Protected Species	European protected species known to occur in the area, which may therefore be present across the alignment include otter (Lutra lutra), wildcat (Felis silvestris grampia) and bat species. The alignment is within a designated Wildcat Protection Area. UK BAP species including red squirrel (Sciurus vulgaris), pine marten (Martes martes), badger (Meles meles), and adder (Vipera berus). SBL species including slow worm (Anguis fragilis), common lizard (Zootoca vivipara), common toad (Bufo bufo), hedgehog (Erinaceus europaeus), mountain hare (Lepus timidus) and brown hare (Lepus europaeus).	
	Conclusion Despite the designated Wildcat Protected Area within the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing and best practice construction techniques the project is unlikely to compromise the conservation status or known presence or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied.	
Habitats	There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to compromise the integrity of Annex 1 habitats including blanket bog and GWDTE. Class 5 Peatland is recorded to the west of the alignment. The description of Class 5 peatland is that soil information takes precedence over vegetation data, an area where there is no peatland vegetation and therefore no peatland habitat has been recorded. This may include areas of bare soil, where the soil is carbon-rich and deep peat present. Alignment option 2.1 component soils are primarily made up of humus-iron podzols with the west including areas of peaty gleys with dystrophic blanket peat with peaty gleyed podzols and noncalcareous gleys. SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is ancient woodland of category 2a within alignment option 2.1. Conclusion A Red rating is applied as the project is likely to compromise ancient woodland e.g. by passing directly through them.	Н
Geology, Hydrology and Hydrogeology	There are four private water supplies within 250 m of alignment option 2.1, PWS Hill Lodge, PWS Swordale - Lower, PWS Swordale Milton Lodge and PWS Swordale - Milton Lodge Steading. The alignment option passes through two Water Framework Directive (WFD) designated watercourses (River Glass and River Sgitheach), which may require a WFD assessment to be completed as part of any Environmental Impact Assessment (EIA). This alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn).	М



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics	Potential Impacts	RAG Impact Rating
	There is no mapped Class 1 and 2 priority peatland throughout alignment option 2.1. The majority of the alignment is mapped as mineral soil with no peatland vegetation. In addition, there is a localised area of mapped Class 5 peatland situated in the western extents of alignment option 2.1. Class 5 is indicative of soils that are carbon rich, potential deep peat, bare soils and no recorded peatland vegetation or habitats.	
	Phase 1 peat depth surveys have been undertaken across the western extents of alignment option 2.1 where Class 5 peatland is mapped. Results from these surveys indicate that the majority of the alignment option is situated across shallow soils (<0.5 m) with very localised areas of peat (>0.5 m) in the west. Peat data has not been collected throughout the areas in the centre and east of this alignment option due to the presence of steep slopes where peat does not accumulate and farmland which is typically comprised of shallow soils.	
	In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate.	
	Conclusion	
	An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.	
Ornithology	All designated sites and qualifying species have been evaluated and recorded in alignment option 1.1. The below statements highlight the distance of alignment option 2.1 to these Sites:	
	Ben Wyvis SPA is situated 2.8 km WNW of alignment option 2.1;	
	 Cromarty Firth SPA Ramsar Site is situated 3.2 km SE of alignment option 2.1; 	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.1;	
	 Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.1; 	Н
	Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.1;	
	Moray Firth SPA is situated 15.0 km SE of alignment option 2.1; and	
	Novar SPA is situated 0.1 km N of alignment 2.1.	
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within alignment option 2.1, and thereby with connectivity to the Proposed Development include:	



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics	Potential Impacts	RAG Impact Rating
	black grouse (Lyrurus tetrix);	
	capercaillie (<i>Tetrao urogallus</i>);	
	osprey (Pandion haliaetus); and	
	red kite (<i>Milvus milvus</i>).	
	Conclusion	
	Alignment option 2.1 has the potential to cause barrier and collision effects to qualifying SPA species, and therefore a Red rating is applied.	
Cultural Herita	nge	
Designations	Designated Assets:	
	There are no Garden and Designed Landscapes (GDL), Registered Battlefields or World Heritage Sites within alignment option 2.1.	
	There are no Scheduled Monuments within proposed alignment option 2.1. However, SM4945, Drumore, farmstead, field system, chambered cairn & cupmarks is located within 50 m to the east.	
	Within 5 km of alignment option 2.1. there are:	
	11 Scheduled Monuments (incl. SM4945); and	
	One Garden and Designed Landscape: GDL00303 Novar.	M
	Non-designated assets:	I IVI
	There are no non-designated assets identified from the Canmore Database, located within 50 m of alignment option 2.1. However, the likelihood of encountering buried archaeology is elevated given the wider landscape context, specifically in the area surrounding SM4945.	
	Direct:	
	There remains the potential to oversail and/or interact in close proximity to designated asset SM4945. There also remains the potential to directly impact previously unknown buried archaeological remains based on the landscape context of the alignment.	
	Indirect and Setting:	



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects: RAG Impact Rating Topics Potential Impacts There remains the potential to introduce both temporary and permanent effects to setting for designated assets as a result of changes to the visual sphere and character of the area. SM4945 derives value from inter-connected views to other nearby scheduled monuments as well as from views north over the inland rivers. The OHL portion of the proposed alignment would be visible within these key views and may adversely impact setting of the asset. Conclusion As such, there is a moderate potential for impact to designations as a result of this alignment and an Amber rating has been applied. Cultural There are no Listed Buildings within alignment option 2.1. Heritage There are no Conservation Areas within or within 5 km of alignment option 2.1. Assets Within 5 km of alignment option 2.1. there are: 3 Category A Listed Buildings; 18 Category B Listed Buildings; and 6 Category C Listed Buildings. Direct: No direct impacts to Listed Buildings are anticipated as a result of the alignment. Indirect and Setting: Foulis Castle (LB7911 – Cat A) is located approximately 2.4 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be impacted by introducing further modern transmission infrastructure into the wider landscape. Conclusion As such, there is the potential for a moderate impact to cultural heritage assets as a result of this alignment and an Amber rating is applied. **People** Proximity to Alignment option 2.1 runs adjacent to Swordale Cottages, 0.3 km away, and is 0.4 km from both Fannyfield House and Assynt M dwellings Cottages. The nearest point to Evanton is 1.6 km. Consequently, an Amber rating is applied.



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
Landscape and	Landscape and Visual Amenity	
Designations	Alignment 2.1 OHL does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA).	
	The Ben Wyvis Special Landscape Area designated by The Highland Council is located 2.5 km to the west of the alignment at the closest point. The alignment is unlikely to compromise the special qualities of this designation.	
	The Ben Wyvis Wild Land Area is located 3.5 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation.	
	Conclusion	
	Based upon the above a Green rating is applied.	
Visual Amenity	The potential visual receptors are:	
	Users of Core path at Swordale Hill; and	M
	Private views from individual properties to the south.	IVI
	The alignment may compromise views and visual amenity at the above locations; therefore an Amber rating is applied.	
Land Use		
Agriculture	Agricultural land within alignment option 2.1 has a land capability ranging between 6.3 at Swordale Hill and 4.2. There are Christmas tree plantations within the alignment option and due to the commercial use, an Amber rating is applied.	M
Forestry	A Red rating is applied as alignment option 2.1 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.	Н
Recreation	Alignment option 2.1 crosses over the core paths of Swordale Hill and is 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at their closest points. The OHL may compromise their recreational use and therefore, an Amber rating is given.	M



Alignment option 2.1 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then SSE for 0.6 km. It veers slightly east for 0.3 km, continues east for 1.7 km, crossing the River Skitheach. South of Swordale Hill, the route then travels NE for 1.6 km, and then ENE for 0.6 km where it ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects: Topics Potential Impacts RAG Impact Rating Planning Alignment option 2.1 fully complies with national, regional, and local planning policies. A Green rating has been applied as the alignment option does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications.



Alignment Option 2.2 – Orange (OHL & UGC)

Description:

Alignment option 2.2 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then NNE for 0.5 km. It turns ENE for 2.3 km where it veers slightly more east for 1.8 km, crossing River Glass, and ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics Potential Impacts RAG Impact Rating

Natural Heritage

Designations

Novar SPA is situated 0.1 N of alignment option 2.2. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie (*Tetrao urogallus*). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 2.2 % of the GB population. Alignment option 2.2 has the potential to result in collision risk and barrier effects.



The Allt nan Caorach SSSI is situated 0.9 km north of alignment option 2.2. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.

Cromarty Firth SSSI, SPA & Ramsar Site is situated 3.2 km SE of alignment option 2.2. The SSSI is designated for eight features: Bar-tailed godwit (*Limosa lapponica*), Red-breasted merganser (*Mergus serrator*), Redshank (*Tringa totanus*), Whooper swan (*Cygnus cygnus*), Wigeon (*Anas penelope*), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey (*Pandion haliaetus*) forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (*Anser anser*) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 2.2 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.

The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 2.8 km of alignment option 2.2. The SPA is designated for supporting a nationally important population of breeding dotterel (*Charadrius morinellus*) which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 2.2 has the potential to result in collision risk and barrier effects. Alignment option 2.2 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.



Alignment option 2.2 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then NNE for 0.5 km. It turns ENE for 2.3 km where it veers slightly more east for 1.8 km, crossing River Glass, and ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects: Topics RAG Impact Rating Potential Impacts Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.2. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately 30 individuals, representing about 2.8 % of the GB population. Alignment option 2.2 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects. Moray Firth SPA is situated 15 km SE of alignment option 2.2. It is designated for supporting internationally important nonbreeding populations of red-throated diver, (Gavia stellata), great northern diver, (Gavia immer) and Slavonian grebe (Podiceps auritus), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (Phalocrocorax aristotelis). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA. Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.2. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012, up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA. Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.2. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (Aguila chrysaetos) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA. Alignment option 2.2 passes through one area of Ancient (of semi-natural origin) woodland 2a associated with the River Glass riparian vegetation and passes through two areas of long-established plantation woodland 2b in its central and eastern section. The alignment passes through areas of native pinewood in its eastern section.



Alignment option 2.2 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then NNE for 0.5 km. It turns ENE for 2.3 km where it veers slightly more east for 1.8 km, crossing River Glass, and ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects: **RAG Impact Rating Topics Potential Impacts** Conclusion Alignment option 2.2 is given a Red rating as it passes directly through long-established plantation woodland and ancient woodland of semi-natural origin and has the potential to cause collision and barrier effects to qualifying SPA species. Protected European protected species known to occur in the area, which may therefore be present across the alignment include otter **Species** (Lutra lutra), wildcat (Felis silvestris grampia) and bat species. The alignment is within a designated Wildcat Protection Area. UK BAP species including red squirrel (Sciurus vulgaris), pine marten (Martes martes), badger (Meles meles), and adder (Vipera berus). SBL species including slow worm (Anguis fragilis), common lizard (Zootoca vivipara), common toad (Bufo bufo), hedgehog (Erinaceus europaeus), mountain hare (Lepus timidus) and brown hare (Lepus europaeus). Conclusion Despite the designated Wildcat Protected Area within the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing and best practice construction techniques the project is unlikely to compromise the conservation status or known presence or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied. Habitats There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to compromise the integrity of Annex 1 habitats including blanket bog and GWDTE. Class 5 Peatland is recorded to the west of the alignment. The description of Class 5 peatland is that soil information takes precedence over vegetation data, an area where there is no peatland vegetation and therefore no peatland habitat has been recorded. This may include areas of bare soil, where the soil is carbon-rich and deep peat present. Alignment option 2.2 component soils are primarily made up of humus-iron podzols with the west including areas of peaty gleys with dystrophic blanket peat with peaty gleved podzols. SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is ancient woodland of category 2a within alignment option 2.2. Conclusion A Red rating is applied as the project is likely to compromise ancient woodland e.g. by passing directly through them.



Cladh Churadain burial ground and chapel. Review of Environmental Effects:		
		Topics
Geology, Hydrology and	There are two private water supplies within 250 m of alignment option 2.2, PWS Lynechork Farmstead and PWS Glenglass - Redburn.	
Hydrogeology	The alignment option passes through one Water Framework Directive (WFD) designated watercourse (River Glass), which may require a WFD assessment to be completed as part of any Environmental Impact Assessment (EIA). Surface water feature Loch Agoo also lies within 250 m of the alignment option.	
	This alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn).	
	There is no mapped Class 1 and 2 priority peatland throughout alignment option 2.2. The majority of the alignment is mapped as mineral soil with no peatland vegetation. In addition, there is a localised area of mapped Class 5 peatland situated in the western extents of alignment option 2.2. Class 5 is indicative of soils that are carbon rich, potential deep peat, bare soils and no recorded peatland vegetation or habitats.	
	Phase 1 peat depth surveys have been undertaken across most of the western extents of alignment option 2.2 where Class 5 peatland is mapped. Results from these surveys indicate that the majority of the alignment option is situated across shallow soils (<0.5 m) with very localised areas of peat (>0.5 m) in the west and central areas of the alignment option. There is only one location with recorded deep peat (>1.0 m) in the central areas of alignment option 2.2, with the data recorded directly south of the alignment near Loch Agoo. Peat data has not been collected throughout the areas in the centre and east of this alignment option due to the presence of steep slopes where peat does not accumulate and farmland which is typically comprised of shallow soils.	M
	In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate.	
	Conclusion	
	An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.	
Ornithology	All designated sites and qualifying species have been evaluated and recorded in alignment option 1.1. The below statements highlight the distance of alignment option 2.2 to these Sites:	
	Ben Wyvis SPA is situated 2.8 km WNW of alignment option 2.2;	H
	Cromarty Firth SPA Ramsar Site is situated 3.2 km SE of alignment option 2.2;	



Cladh Churadain burial ground and chapel. Review of Environmental Effects:		
		Topics
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.2;	
	 Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.2; 	
	Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.2;	
	Moray Firth SPA is situated 15.0 km SE of alignment option 2.2; and	
	Novar SPA is situated 0.1 km N of alignment 2.2.	
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within alignment option 2.2, and thereby with connectivity to the Proposed Development include:	
	black grouse (Lyrurus tetrix);	
	capercaillie (<i>Tetrao urogallus</i>);	
	osprey (Pandion haliaetus); and	
	red kite (<i>Milvus milvus</i>).	
	Conclusion	
	Alignment option 2.2 has the potential to cause barrier and collision effects to qualifying SPA species, and therefore a Red rating is applied.	
Cultural Herit	age	
Designations	Designated Assets:	
	There are no Garden and Designed Landscapes (GDL), Registered Battlefields or World Heritage Sites within alignment option 2.2.	
	There are no Scheduled Monuments within proposed alignment option 2.2. However, SM5007, Cladh Churadain, chapel and burial ground is located within 300 m to the north-east.	L
	Within 5 km of alignment option 2.2. there are:	
	9 Scheduled Monuments (incl. SM5007); and	
	One Garden and Designed Landscape: GDL00303 Novar.	



Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
	Non-designated assets:	
	There is one non-designated asset identified from the Canmore Database, located within 50 m of alignment option 2.2, a post-medieval croft at Redburn. The likelihood of encountering buried archaeology is elevated given the wider landscape context.	
Cultural	There are no Listed Buildings within alignment option 2.2.	
Heritage	There are no Conservation Areas within 5 km of alignment option 2.2.	
Assets	Within 5 km of alignment option 2.2. there are:	
	2 Category A Listed Buildings;	
	17 Category B Listed Buildings; and	
	5 Category C Listed Buildings.	
	Direct: No direct impacts to Listed Buildings are anticipated as a result of the alignment.	
	Indirect and Setting: Foulis Castle (LB7911 – Cat A) is located approximately 3.0 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be impacted by introducing further modern transmission infrastructure into the wider landscape. However, it is not anticipated that the Proposed Development would potentially introduce a significant impact to heritage significance due to changes in setting.	L
	Non-designated assets:	
	There is one non-designated asset identified from the Canmore Database, located within 50 m of alignment option 2.2., a post-medieval croft. The likelihood of encountering buried archaeology is elevated given the wider landscape context.	
	Conclusion	
	As such, there is the potential for a low impact to cultural heritage assets as a result of this alignment and a Green rating is applied.	
People		
Proximity to dwellings	Alignment option 2.2 runs 0.7 km from Fannyfield house and 1.2 km from Evanton at the nearest point. Alignment Option 2.2 runs within 50 m of properties at Redburn. Therefore, an Amber rating is applied.	M



Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
Landscape an	d Visual Amenity	
Designations	Alignment 2.2 OHL does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA).	
	The Ben Wyvis Special Landscape Area designated by The Highland Council is located 3.5 km to the west of the alignment at the closest point. The alignment is unlikely to compromise the special qualities of this designation.	
	The Ben Wyvis Wild Land Area is located 3.5 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation.	
	Conclusion	
	Based upon the above a Green rating is applied.	
Visual	The potential visual receptors are:	
Amenity	Users of Core path at Swordale Hill; and	200
	Private views from individual properties to the north at Redburn, Knockmartin and Lynechork.	M
	The alignment may compromise views and visual amenity at the above locations, therefore an Amber rating is applied.	
Land Use		
Agriculture	Agricultural land within alignment option 2.2 has a land capability ranging between 6.3 near Swordale Hill and 5.1 to the east of Swordale Hill. Due to the potential for commercial forestry near the Windfarm Substation an Amber rating is applied.	M
Forestry	A Red rating is applied as alignment option 2.2 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.	Н
Recreation	Alignment option 2.2 is 0.4 km north of the Swordale Hill core path, 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at the closest points. Therefore, a Green rating is applied.	L



Alignment option 2.2 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, travels east for 0.8 km, then NNE for 0.5 km. It turns ENE for 2.3 km where it veers slightly more east for 1.8 km, crossing River Glass, and ends at a point 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics	Topics Potential Impacts	
Planning		
Planning	Alignment option 2.2 fully complies with national, regional, and local planning policies. A Green rating has been applied as the alignment does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications.	L



Alignment Option 2.3 – Pink (OHL & UGC)

Description:

Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The route then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics Potential Impacts RAG Impact Rating

Natural Heritage

Designations

Novar SPA is situated 0.1 km north of alignment option 2.3. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie (*Tetrao urogallus*). The site supports approximately 13 individuals (1999 – 2003 mean), representing about 2.2 % of the GB population. Alignment option 2.2 has the potential to result in collision risk and barrier effects.



The Allt nan Caorach SSSI is situated 1.3 km north of alignment option 2.3. The SSSI is notified for subalpine dry heath and upland birch woodland. The alignment option may compromise the qualifying features of the SSSI by passing close to it.

Cromarty Firth SSSI, SPA & Ramsar Site is situated 3.2 km SE of alignment option 2.3. The SSSI is designated for eight features: Bar-tailed godwit (*Limosa lapponica*), Red-breasted merganser (*Mergus serrator*), Redshank (*Tringa totanus*), Whooper swan (*Cygnus cygnus*), Wigeon (*Anas penelope*), Mudflats, Saltmarsh, Sandflats. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey (*Pandion haliaetus*) forage throughout the SPA. The Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose (*Anser anser*) (1992/93 to 1996/97 winter peak mean of 1,782 individuals; 2% of the Iceland/UK/Ireland biogeographic population). Alignment option 2.3 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.

The Ben Wyvis SPA, SAC, SSSI and NNR are located to the west, approx. 2.8 km of alignment option 2.3. The SPA is designated for supporting a nationally important population of breeding dotterel (*Charadrius morinellus*) which represents at least 2% of the British population. The SAC is designated for eight features: alpine and subalpine heath, blanket bog, dry heath, tall herb communities, clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, acidic scree, montane acid grasslands, and plants in crevices on acid rocks. The SSSI is designated for six features: blanket bog, dotterel, dystrophic and oligotrophic lochs, Quaternary of Scotland, upland assemblage and vascular plant assemblage. Alignment option 2.3 has the potential to result in collision risk and barrier effects. Alignment option 2.3 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.



Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The route then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:

Topics	Potential Impacts	RAG Impact Rating
	Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.3. The SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie. The site supports approximately 30 individuals, representing about 2.8 % of the GB population. Alignment option 2.3 may compromise the qualifying features of the site by passing within 2 km to it, including the potential to result in collision risk and barrier effects.	
	Moray Firth SPA is situated 15 km SE of alignment option 2.3. It is designated for supporting internationally important non-breeding populations of red-throated diver, (<i>Gavia stellata</i>), great northern diver, (<i>Gavia immer</i>) and Slavonian grebe (<i>Podiceps auritus</i>), together with its assemblage of wintering of sea duck species and its breeding and non-breeding assemblage of shag (<i>Phalocrocorax aristotelis</i>). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.3. The SPA qualifies (in part) under Article 4.1 by regularly supporting populations of European importance of the Annex I species: osprey forage throughout the SPA (2008 to 2012, up to 25 territories within feeding range, 12.5% of the GB population, with 4 pairs breeding within the site, 4% of the GB population). The foraging range for osprey can extend up to 28 km and hence is included. The Inner Moray Firth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1992/93 to 1996/97 winter peak means): greylag goose (2,651 individuals, 3% of the Iceland/UK/Ireland biogeographic population), which have a foraging range of 15 – 20 km from winter roost sites. Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.3. Glen Affric to Strathconon SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species golden eagle (<i>Aquila chrysaetos</i>) (10 active territories in 2003, 2.2% of the GB population). Due to the SPA being located more than 10 km away from the alignment option, it is unlikely to compromise the qualifying features of the SPA.	
	Alignment option 2.3 passes through one area of Ancient (of semi-natural origin) woodland 2a associated with the River Glass riparian vegetation and passes through two areas of long-established plantation woodland 2b in its central and eastern section. The alignment passes through areas of native pinewood in its central section and wet woodland in its eastern section.	



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Review of Environmental Effects: **RAG Impact Rating Topics Potential Impacts** Conclusion Alignment option 2.3 is given a Red rating as it passes directly through long-established plantation woodland and ancient woodland of semi-natural originand has the potential to cause collision and barrier effects to qualifying SPA species. Protected European protected species known to occur in the area, which may therefore be present across the alignment include otter Species (Lutra lutra), wildcat (Felis silvestris grampia) otter, wildcat and bat species. The alignment is within a designated Wildcat Protection Area. UK BAP species including red squirrel (Sciurus vulgaris), pine marten (Martes martes), badger (Meles meles), and adder (Vipera berus). SBL species including slow worm (Anguis fragilis), common lizard (Zootoca vivipara), common toad (Bufo bufo), hedgehog (Erinaceus europaeus), mountain hare (Lepus timidus) and brown hare (Lepus europaeus). Conclusion UK BAP species including red squirrel, pine marten, badger, and adder. SBL species including slow worm, common lizard, common toad, hedgehog, mountain hare and brown hare. Despite the designated Wildcat Protected Area within the alignment, for the purposes of this assessment and in the absence of survey, it is assumed that through design, licencing and best practice construction techniques the project is unlikely to compromise the conservation status or known presence or suitable habitat for EPS or BAP/SBL species. A Green rating is therefore applied. There is limited presence of peatland within the alignment option therefore it is unlikely that there may be potential to Habitats compromise the integrity of Annex 1 habitats including blanket bog and GWDTE. Class 5 Peatland is recorded to the west of the alignment. The description of Class 5 peatland is that soil information takes precedence over vegetation data, an area where there is no peatland vegetation and therefore no peatland habitat has been recorded. This may include areas of bare soil, where the soil is carbon-rich and deep peat present. Alignment option 2.3 component soils are primarily made up of humus-iron podzols with the west including areas of peaty gleys with dystrophic blanket peat with peaty gleyed podzols. SSEN defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There is ancient woodland of category 2a within alignment option 2.3.



Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The route then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
	Conclusion	
	A Red rating is applied as the project is likely to compromise ancient woodland e.g. by passing directly through them.	
Geology,	There are no private water supplies within 250 m of alignment option 2.3.	
Hydrology and Hydrogeology	The alignment option passes through one Water Framework Directive (WFD) designated watercourse (River Glass), which may require a WFD assessment to be completed as part of any Environmental Impact Assessment (EIA). Surface water features, Loch J.U and Loch Agoo also lie within 250 m of the alignment option.	
	This alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn).	
	There is no mapped Class 1 and 2 priority peatland throughout alignment option 2.3. The majority of the alignment is mapped as mineral soil with no peatland vegetation. In addition, there is a localised area of mapped Class 5 peatland situated in the western extents of alignment option 2.3. Class 5 is indicative of soils that are carbon rich, potential deep peat, bare soils and no recorded peatland vegetation or habitats.	24
	Phase 1 peat depth surveys have been undertaken across the western extents of alignment option 2.3 where Class 5 peatland is mapped. Results from these surveys indicate that the majority of the alignment option is situated across shallow soils (<0.5 m) with very localised areas of peat (>0.5 m) in the west and central areas of the alignment. There is only one location with recorded deep peat (>1 m) in the central area of alignment option 2.3, with the data recorded directly south of the alignment near Loch J.U. Peat data has not been collected throughout the areas in the centre and east of this alignment option due to the presence of steep slopes where peat does not accumulate and farmland which is typically comprised of shallow soils.	M
	In addition, during site surveys, bedrock substrate was frequently recorded underlying the soils and peat within the survey corridor. Out of the 357 points surveyed, 124 points recorded rock as the underlying substrate.	
	Conclusion	
	An Amber rating is applied as this alignment option passes through one Surface Water Drinking Protected Area (River Glass - Cromarty Firth to Redburn) and may compromise the quality and/or quantity of surface waters which provide public supply.	
Ornithology	All designated sites and qualifying species have been evaluated and recorded in alignment option 1.1. The below statements highlight the distance of alignment option 2.3 to these Sites:	
	Ben Wyvis SPA is situated 2.8 km WNW of alignment option 2.3;	H
	Cromarty Firth SPA Ramsar Site is situated 3.2 km SE of alignment option 2.3;	



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and 0.3 km SV	of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.	
Review of Env	ironmental Effects:	
Topics	Potential Impacts	RAG Impact Rating
	Glen Affric to Strathconon SPA is situated 21.6 km SW of alignment option 2.3;	
	 Inner Moray Firth SPA Ramsar Site is situated 14.7 km SE of alignment option 2.3; 	
	 Morangie Forest SPA is situated 10.1 km ENE of alignment option 2.3; 	
	 Moray Firth SPA is situated 15.0 km SE of alignment option 2.3; and 	
	Novar SPA is situated 0.1 km N of alignment 2.3.	
	Known Schedule 1 / Annex I and / or Birds of Conservation Concern (BoCC) red-list species and Scottish Biodiversity List species with nesting territories / nest buffer zones within alignment option 2.3, and thereby with connectivity to the Proposed Development include:	
1	black grouse (<i>Lyrurus tetrix</i>);	
	capercaillie (<i>Tetrao urogallus</i>);	
	osprey (Pandion haliaetus); and	
	red kite (<i>Milvus milvus</i>).	
	Conclusion	
	Alignment option 2.3 has the potential to cause barrier and collision effects to qualifying SPA species, and therefore a Red rating is applied.	
Cultural Herita	nge	
Designations	Designated Assets:	
	There are no Garden and Designed Landscapes (GDL), Registered Battlefields or World Heritage Sites within alignment option 2.3. There are no Scheduled Monuments within proposed alignment option 2.3. However, SM5007, Cladh Churadain chapel and burial ground is located within 300 m to the north-east.	M
	Within 5 km of alignment option 2.3. there are:	
	9 Scheduled Monuments (incl. SM5007); and	
	One Garden and Designed Landscape: GDL00303 Novar.	



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Review of Environmental Effects: **RAG Impact Rating Topics Potential Impacts** Non-designated assets: There is one non-designated asset identified from the Canmore Database, located within 50 m of alignment option 2.3, a prehistoric burial cairn. This is over-sailed by the proposed OHL east of the River Glass crossing. The likelihood of encountering buried archaeology is elevated given the wider landscape context, specifically in the areas surrounding this asset. Direct: There remains the potential to directly impact previously unknown buried archaeological remains based on the landscape context of the alignment. Indirect and Setting: The proposed alignment is not anticipated to introduce any significant changes in setting to nearby designated assets. SM5007, although located nearby is likely sufficiently screened and changes to the setting of this asset are not anticipated. Conclusion As such, there is medium potential for impact to designations as a result of this alignment and therefore an Amber rating has been applied. Cultural There are no Listed Buildings within alignment option 2.3. Heritage There are no Conservation Areas within or within 5 km of alignment option 2.3. Assets Within 5 km of alignment option 2.3. there are: 2 Category A Listed Buildings; 17 Category B Listed Buildings; and 5 Category C Listed Buildings.

Indirect and Setting: Foulis Castle (LB7911 – Cat A) is located approximately 2.9 km to the south of the proposed alignment and has the potential for key views north to the inland rivers, and along the Cromarty Firth to the NE, to be impacted by introducing further modern transmission infrastructure into the wider landscape. However, tit is not anticipated that the Proposed Development would potentially introduce a significant impact to heritage significance due to changes in setting. As such, there is potential for a low impact to cultural heritage assets as a result of this alignment and a Green rating is applied.

Direct: No direct impacts to Listed Buildings are anticipated as a result of the alignment.



Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The route then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects:		
Topics	Potential Impacts	RAG Impact Rating
People People		
Proximity to dwellings	Alignment option 2.3 runs 1.4 km north of Swordale Cottages and is 0.5 km from Fannyfield House and 0.4 km from Assynt Cottages. The nearest point to Evanton is 1.6 km. Consequently, an Amber rating is applied.	M
Landscape and	I Visual Amenity	
Designations	Alignment 2.3 does not pass through a National Scenic Area (NSA), Wild Land Area (WLA) or Special Landscape Area (SLA).	
	The Ben Wyvis Special Landscape Area designated by The Highland Council is located 3.5 km to the west of the alignment at the closest point. The alignment is unlikely to compromise the special qualities of this designation.	
	The Ben Wyvis Wild Land Area is located 3.5 km to the west of the alignment at the closest point. The alignment is unlikely to impact on the wild qualities of this designation as it is located outside of the designation.	
	Based upon the above a Green rating is applied.	
isual Amenity	The potential visual receptors are:	
	Users of the core path at Swordale Hill; and	M
	 Private views from individual properties to the north at Redburn, Knockmartin and Lynechork. 	, vi
	The alignment may compromise views and visual amenity at the above locations; therefore, an Amber rating is applied.	
and Use		•
Agriculture	Agricultural land within alignment option 2.3 has a land capability ranging between 6.3 near Swordale Hill and 4.2 to the east of Swordale Hill. Due to the potential for commercial forestry near the Windfarm Substation an Amber rating is applied.	M
orestry	A Red rating is applied as alignment option 2.3 crosses conifer plantation woodland and the commercial forestry plantations located near the Windfarm Substation are likely to be compromised.	Н
Recreation	Alignment option 2.3 is less than 0.1 km north of Swordale Hill, 0.5 km northwest of the Black Rock Gorge core path and 1 km northwest of the Evanton Woods core path at the closest points. The OHL may compromise their recreational use and therefore, an Amber rating is given.	М



Alignment option 2.3 is an OHL which begins at the proposed Abhainn Dubh Wind Farm Substation, traveling east for 0.8 km, then NE for 0.8 km. It veers slightly ENE for 1.2 km, continues east for 0.4 km, and then heads NE for 0.7 km, crossing the River Skitheach. The route then goes ENE for 0.7 km, ending 0.8 km west of Assynt House and 0.3 km SW of Cultural Heritage feature of the Cladh Churadain burial ground and chapel.

Review of Environmental Effects: Topics Potential Impacts RAG Impact Rating Planning Planning Alignment option 2.3 fully complies with national, regional, and local planning policies. A Green rating has been applied as the alignment option does not interact with other third-party proposals, such as the Ceislein and Creachan Wind Farm applications.



APPENDIX B FIGURES













