

# 1. APPENDIX 2: APPROACH TO ROUTE SELECTION

## 1.1 Methodology

The approach to route selection was informed by SSEN's guidance<sup>1</sup> which provides a framework to ensure environmental, technical and economic considerations are identified and appraised at each stage of the routeing process.

The guidance sets out SHE Transmission plc's approach to selecting a route for an OHL and helps SHE Transmission plc to meet its obligations under Schedule 9 of the Electricity Act 1989, which requires transmission license 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 route options process.

The guidance splits the routeing stage of a project into four principal stages, as follows:

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

Each stage is an iterative process and involves an increasing level of detail and resolution, bringing cost, technical and environmental considerations together in a way which seeks the best balance at each stage. The stages that are carried out can vary depending on the type, nature of and size of a project and consultation is carried out at each stage of the process. This project is currently at Stage 2.

## 1.2 Stages of the Methodology

The key stages summarised above, have been undertaken for this project as follows:

### Pre-Routeing Activities

The starting point in all routeing projects is to establish the need for the project and to select the favoured strategic option to deliver it.

### Stage 0 – Routeing Strategy Development

The routeing strategy development stage seeks to set out the overall approach to the routeing study, the methods which will be adopted to identify, appraise and select options at each stage, and the overall consultation strategy.

### Stage 1 – Corridor Selection

The corridor selection stage seeks to identify a series of linear areas (corridors) capable of providing a continuous connection between the defined connection points and delivering the required transmission connection.

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<sup>1</sup> SSEN (March 2018), Procedures for Routeing Overhead Lines of 132kV and above

## Stage 2 – Route Selection

This project is currently at the route selection stage, discussed below.

### 1.3 Route Selection

The route selection stage of the project involves the identification of route options, and the environmental, technical and economic analysis of these route options to arrive at a preferred route. Given the previous work that was undertaken, the selection of routes began by reviewing those routes previously identified and appraised to determine whether they remained relevant for further analysis as part of the Skye Reinforcement Project, or whether modifications to these route options or new route options were required.

Due to the length of the project, it has been necessary to split the broad corridor into sections to more easily describe, identify and assess route options.

Seven sections have been identified as follows:

- Section 0 – Ardmore to Edinbane;
- Section 1 – Edinbane to Sligachan;
- Section 2 – Sligachan to Broadford;
- Section 3 – Broadford to Kyle Rhea;
- Section 4 – Kyle Rhea to Loch Quoich / Loch Cluanie;
- Section 5 – Loch Cuaich / Loch Cluanie to Invergarry / Glen Moriston; and
- Section 6 – Invergarry / Glen Moriston to Fort Augustus.

These sections are consistent with the previous iteration of the project, albeit Section 0 has been extended.

### 1.4 Baseline Conditions

A baseline desktop study has been carried out to identify a range of potential constraints and opportunities within the broad corridor, and its adjacent context. Baseline studies have built upon those previously carried out for the Fort Augustus to Skye Project. This has involved the following activities:

- Identification of environmental designated sites and other constraints, utilising GIS datasets available via SNHi Site Link;
- Identification of archaeological designations and other recorded sites, utilising GIS datasets available via HES Data Services and the Highland Historic Environment Record;
- Review of The Highland wide Local Development Plan 2012 to identify further environmental constraints and opportunities, such as regional level designations 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 OpenData) and aerial photography (where available) to identify other potential constraints such as settlement, properties, walking routes, cycling routes etc.;
- Extrapolation of OS Vectormap GIS data to identify further environmental constraint including locations of watercourses and waterbodies, roads classifications and degree of slope; and
- Review of other local information through online and published media such as tourism sites and walking routes.

#### 1.4.1 Site Appraisals

A series of site appraisals have been carried out by experienced professionally qualified individuals in the various specialist fields to enable an informed combined opinion on how the potential environmental effects identified during the baseline studies could influence potential route options. Site appraisals have comprised:

- Site visits by the project landscape architects. This has included drawing on experiences and knowledge gained from the routeing and alignment stages of the Fort Augustus to Skye Project whereby detailed studies on the identification of sensitive receptors, and route and alignment options were undertaken. Further site visits have been undertaken by the project landscape architects in relation to the Skye Reinforcement Project;
- High level walkover habitat surveys of preferred route for Fort Augustus to Skye Project, as well as more detailed habitat surveys of route and alignment options through the Kinloch and Kyleakin Hills SAC / SSSI; and
- Targeted bird surveys to investigate potential effects at potentially sensitive locations along the preferred route identified for the Fort Augustus to Skye Project.

## 1.5 Route Identification and Selection Methods

Route options, both for the Fort Augustus Project and for the review of these and identification of new routes for the Skye Reinforcement Project, took into account the most notable constraints identified during the baseline studies and site appraisals. Considerations have included a review of the steps outlined in the Holford Rules and SHE Transmission plc's approach to routeing. In summary, the following has been taken into account as far as is practicable at this routeing stage and will be considered in more detail during Stage 3 (Alignment Selection):

- 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;
- Avoid skylining the route in key views and where necessary, cross ridges obliquely where a dip in the ridge provides an opportunity;
- Target the route 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 route options have been identified at 1 km widths to allow for subsequent identification of alignments during the next stage of the process (Stage 3).


## 1.6 Appraisal Method

Appraisal of route options has involved systematic consideration against the following environmental topic areas:

- Natural Heritage
  - Designations;
  - Protected Species;
  - Habitats;
  - Ornithology; and
  - Hydrology / Geology.
- Cultural Heritage:
  - Designations; and
  - Cultural Heritage Assets.

- Proximity to Dwellings:
  - Residential Properties
- Landscape and Visual:
  - Designations;
  - Landscape Character; and
  - Visual Amenity.
- Land Use:
  - Agriculture;
  - Forestry; and
  - Recreation.
- Planning
  - Policy; and
  - Proposals
- Technical
  - Environmental Design;
  - Topography;
  - Ground Conditions;
  - Access;
  - Existing Infrastructure;
  - Existing Network;
  - Operational.
- Cost
  - Capital.

A RAG rating has been applied to each topic area within each section, indicating potential impacts. This rating is based on a four point scale as follows:

Performance	Comparative Appraisal
<p><b>Most Preferred</b></p>  <p><b>Least Preferred</b></p>	Low potential for the development to be constrained
	Intermediate potential for the development to be constrained
	High potential for the development to be constrained

#### 1.6.1 Identification of a Preferred Route

Following review of all of the potential route options, these environmental topics have been considered in combination with technical considerations to arrive at a preferred route option. The overall objective throughout the appraisal of route options has been to take full consideration of all environmental factors to minimise any potential adverse impacts on the environment.