SP Energy Networks

Scoop Hill 132kV Connection Project Environmental Impact Assessment Screening Report

Draft report
Prepared by LUC
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11086

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Chapter 1
Introduction

1.1 SP Energy Networks (SPEN) intends to apply for Consent under Section 37 of the Electricity Act 1989 (as amended) ('the Electricity Act') and deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended), to install and keep installed a new twin 132 kilovolt (kV) grid connection for the proposed Scoop Hill Community Wind Farm in Dumfries and Galloway (hereafter referred to as the 'Scoop Hill 132kV Connection Project'). The Scoop Hill 132kV Connection Project will be supported on wood poles, and will run from the proposed Scoop Hill Wind Farm substation to the existing Moffat substation (at Bearholm). The location of the proposed Scoop Hill Community Wind Farm, existing electricity network and points of connection (substations) are shown **on Figure 1.1**.

1.2 LUC has prepared this Screening Report on behalf of SPEN to accompany a request for a formal Environmental Impact Assessment (EIA) Screening Opinion from the Scottish Ministers in accordance with Regulation 8(1) of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, for the proposed Scoop Hill 132kV Connection Project.

1.3 The purpose of the Screening Report is to set out the required information to aid the Scottish Ministers in reaching a decision on whether the nature, size and location of the Scoop Hill 132kV Connection Project is likely to give rise to significant adverse effects on the environmental, and therefore, whether an EIA will be required to accompany the application for Section 37 consent.

The Applicant

1.4 SPEN owns and operates the electricity transmission and distribution networks in Southern and Central Scotland through its wholly-owned subsidiaries, SP Transmission plc (SPT) and SP Distribution plc (SPD). SPT is the holder of a transmission licence. SPEN's transmission network is the backbone of the electricity system within its area, carrying large amounts of electricity at high voltages from generating sources such as wind farms, power stations and various other utilities across long distances to connected homes and businesses. The transmission network consists of

approximately 4,000 kilometres (km) of overhead lines and over 600 km of underground cables. The electricity is then delivered via the distribution network which has over 150 substations and in excess of 100 grid supply points which serves approximately two million customers in Southern and Central Scotland.

1.5 As transmission licence holder for Southern Scotland, SPEN is required under Section 9(2) of the Electricity Act 1989 to:

- develop and maintain an efficient, co-ordinated and economical system of electricity transmission; and
- facilitate competition in the supply and generation of electricity. SPEN is required in terms of its statutory and licence obligations to provide for new electricity generators wishing to connect to the transmission system in its licence area. SPEN is also obliged to make its transmission system available for these purposes and to ensure that the system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity.

1.6 Section 38 and Schedule 9 of the Electricity Act 1989 impose a further statutory duty on SPEN to take account of the following factors in formulating proposals for the installation of overhead transmission lines:

- *"(a) to have 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 interest; and*
- *(b) to do what it reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or any such flora, fauna, features, sites, buildings or objects."*

1.7 SPEN's 'Schedule 9 Statement' sets out how it will meet the duty placed upon it under Schedule 9. The Statement also refers to the application of best practice methods to assess the environmental impacts of proposals and to identify appropriate mitigation measures.

1.8 As a result of the above, SPEN is required to identify electrical connections that meet the technical requirements of the electricity system, which are economically viable, and cause on balance, the least disturbance to both the environment and the people who live, work and enjoy recreation within it.

The Need for the Scoop Hill 132kV Connection Project

1.9 The Scoop Hill Community Wind Farm is being proposed by Community Windpower and is located approximately 5km south-east of Moffat within Dumfries and Galloway. It currently comprises 75 wind turbines with an overall capacity to produce up to 525 megawatts (MW) of electricity. The proposed Scoop Hill Community Wind Farm will also include up to three energy storage facilities.

1.10 The application for the proposed Scoop Hill Community Wind Farm was submitted to the Scottish Government Energy Consents Unit (ECU) in November 2020 and is currently awaiting determination.

1.11 A request for the connection to the transmission network has been received by SPEN via National Grid Electricity Transmission (NGET) from Community Windpower. Following consideration of the network in this area, the proposed point of connection from the Scoop Hill substation is the Moffat substation via a new twin 132kV overhead line (OHL).

1.12 SPEN has a legal duty under the Electricity Act 1989 to provide, develop and maintain technically feasible and economically viable transmission and distribution system grid connections to new electricity generating developments. SPEN also has a duty to provide a connection for new generation (i.e. the proposed Scoop Hill Community Wind Farm) to the wider electricity transmission network.

Routeing and Consultation

1.13 A routeing exercise was undertaken in 2021 which comprised a review of environmental, technical and economic considerations and the application of SPEN's established step-by-step routeing principles[1] to identify and appraise potential route options to establish a 'preferred' route for the Scoop Hill 132kV Connection Project. The methodology and findings of the routeing process are presented in the Scoop Hill 132kV Grid Connection: Routeing and Consultation Report (October 2021)[2].

1.14 Following identification of a preferred route, consultation with the public, local authority and statutory and non-statutory consultees was carried out from 25th October to 21st November 2021, with comments being received from 25th October 2021 through to 28th November 2021.

[1] SP Energy Networks (May 2021) Approach to Routeing and Environmental Impact Assessment, Version 2, Available [online] at: https://www.spenergynetworks.co.uk/userfiles/file/SPEN_Approach_to_Routeing_Document_2nd_version.pdf

[2]https://www.spenergynetworks.co.uk/userfiles/file/Scoop_Hill_Routeing_and_Consultation_Document_FINAL_low_res.pdf

1.15 Due to the Covid-19 pandemic and social distancing restrictions, it was not considered possible to hold in-person public exhibitions at the time of the consultation. Therefore, as a form of good practice, SPEN held a virtual online exhibition as an alternative to face-to face consultation. This was in addition to making the relevant information publicly available on SPEN's website, https://www.spenergynetworks.co.uk/pages/scoop_hill.aspx . Although holding online virtual exhibitions is not a statutory consultation requirement for S37 applications, this was undertaken in line with the Scottish Government good practice planning guidance[3] at the time.

1.16 The online exhibition included a series of information boards outlining details of the Scoop Hill 132kV Connection Project. The focus of the consultation was to obtain stakeholder views on

- the preferred route;
- the alternative route option considered during the routeing process; and
- any other issues, suggestions or feedback; particularly views on the local area, for example, areas used for recreation, local environment features, and any plans to build along the preferred route.

1.17 Feedback received through the consultation process has been taken account of by SPEN alongside a technical review, culminating in the 'proposed' route, to be progressed to the next stage in the development process. Following the consultation, SPEN produced an Annex to their Routeing and Consultation Report (January 2022) as a standalone report outlining SPEN's responses and resulting actions to the consultation responses received.

The Consenting and EIA Process

1.18 As detailed further in **Chapter 2: Project Description,** the Scoop Hill 132kV Connection Project comprises approximately 2.4km of 132kV OHL**.**

Requirement for EIA

1.19 To determine whether the Scoop Hill 132kV Connection Project is 'EIA development', regard must be had to the EIA Regulations, in this case the Electricity Works (EIA) (Scotland) Regulations 2017 (herein referred to as the 'EIA Regulations'). EIA development falls into two categories: Schedule 1 development, for which EIA is mandatory; and Schedule 2 development, which is classified as EIA development where the development is "*likely to have significant effects on the environment by virtue of factors such as its nature, size or location*".

1.20 The Scoop Hill 132kV Connection Project could be considered an EIA development under Schedule 2 of the EIA Regulations as it has a voltage of 132kV or more (Schedule 2 Part (2)(a)) and will connect the Scoop Hill Wind Farm (for which Section 36 consent is required) to the electricity network (Schedule 2 Part (2)(c)). However, due to its nature, size and location with regard to the selection criteria for screening Schedule 2 development presented as Schedule 3 (Regulation 7(2)(a)) of the EIA Regulations, an EIA may not be required. Therefore, this request for a Screening Opinion to the Scottish Ministers in accordance with Regulation 8(1) of the Regulations is accompanied by the relevant information in accordance with Regulation 8(2) and 8(3) and takes into account the selection criteria in Schedule 3 and the findings of the work undertaken to date as part of the routeing and consultation process.

1.21 In accordance with Regulation 8 of the EIA Regulations, the following information supports this request for an EIA Screening Opinion:

- A description of the location and the physical characteristics of the Scoop Hill 132kV Connection Project are provided and illustrated on **Figures 1.1**, **1.2** and **2.1** (Regulation 8. (2) (a)).
- As outlined in **Chapter 3**, the OHL is not considered to be located in an environmentally "sensitive area" (Regulation 8. (2) (b) (i) (ii)).
- The OHL will not result in significant effects on the environment, as detailed in **Chapter 3** (Regulation 8. (2) (c) (d)).
- Where applicable, a description of any features, proposed measures or mitigation envisaged to avoid or prevent significant adverse effects on the environment are outlined (Regulation 8. (3)).

1.22 Based on the information gathered and work undertaken to date, the Scoop Hill 132kV Connection Project is not considered to be EIA development. Should the Scottish Ministers also determine that the Scoop Hill 132kV Connection Project is not EIA development and that subsequent provisions of the EIA Regulations do not apply, SPEN will undertake an environmental appraisal in relation to key topics (see **Chapter 4**, to be agreed with consultees) and prepare a supporting Environmental Report to accompany the Section

[3] Scottish Government (2020) Coronavirus (COVID-19):Planning Guidance on Pre-Application Consultations for Public Events. Available [online] at: https://www.gov.scot/publications/coronavirus-covid-19-planning-guidance-on-pre-application-consultations-for-public-events/

37 application in line with the latest Scottish Government guidance[4].

Application for Consent

1.23 Following completion of the Environmental Appraisal Report, SPEN will apply to Scottish Ministers for consent under Section 37 of the Electricity Act 1989 ('the Electricity Act'), as amended, to install, and keep installed, the proposed twin 132kV OHL identified above. In conjunction with the Section 37 application, SPEN will apply for deemed planning permission for the 132kV OHL under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended, for the proposed development and any ancillary development such as access tracks or substation facilitation works required to facilitate the connection. The Environmental Report (or EIA Report if the Ministers deem the project to be EIA development) will accompany the application.

Structure of the Report

1.24 In accordance with Regulations 8(2) and 8(3), and taking into account the selection criteria in Schedule 3 of the EIA Regulations, this EIA Screening request includes a plan sufficient to identify the land (see **Figure 1.2**), a description of the nature and the purpose of the Scoop Hill 132kV Connection Project (**Chapters 1 and 2**), consideration of the possible effects on the environment and identification of measures proposed to prevent significant adverse effects informed by the findings of the work undertaken to date as part of the routeing process (**Chapter 3**).

1.25 The remainder of this report is structured as follows:

- **Chapter 2** provides a description of the Scoop Hill 132kV Connection Project, including outline construction and maintenance information.
- **Chapter 3** provides a summary of the screening analysis carried out, including an overview of the environmental baseline and a brief description of any likely effects of the Scoop Hill 132kV Connection Project.
- **Chapter 4** outlines the topic areas to be considered further as part of the Environmental Report and documentation to support the application for Section 37 Consent.

1.26 The following Appendices are also provided:

- **Appendix A**: Environmental Screening Checklist.
- **Appendix B**: Proposed Content of the Environmental Report.

[4] Scottish Government (2018) Energy consents: Overhead Line Applications without an EIA Report. Available [online] at: https://www.gov.scot/publications/energy-consents-overhead-line-applications-without-an-eia-report/

Chapter 2
Project Description

2.1 A new twin 132kV OHL is required to connect the proposed Scoop Hill Community Wind Farm to the existing substation at Moffat (Bearholm)[5]. The twin 132kV OHLs will run in parallel for the duration of the route and will be supported on double wood poles, with circa. 30 double poles on each OHL. The twin OHLs will be approximately 2.4km in length. A short section of underground cables (UGCs) will also be required to connect the OHLs to the Moffat substation and will be approximately 310m in length.

2.2 A land right (wayleave) will be sought from each landowner for a corridor, typically 120m (comprising 50m either side of the centre of each OHL and a 20m space between the twin OHLs), to protect the OHLs from future development and from falling trees.

2.3 The proposed OHL route reflects a preliminary design from SPEN and is a refinement to the OHL route identified through the routeing and consultation process. Further technical design work will be undertaken by SPEN to further define the location of individual wood poles, access tracks and working areas, prior to the final environmental assessment and Section 37 application being submitted, and this will also take into account other environmental constraints identified through surveys. As illustrated on **Figure 1.2**, the proposed OHL route, as it currently stands, extends from the proposed Scoop Hill Community Wind Farm substation, to the south of the minor summit of The Dod, travels north-west dropping in elevation over the north-western flank of the hill. The proposed OHL route then crosses the forested Beldcraig Burn valley at a similar point to the existing 400kV OHL. The proposed route then broadly parallels the existing 400kV as it drops down the valley side to the east of Annadale River, passing over a minor road, crossing the River Annan and passing through low lying farmland before crossing under the 400kV OHL into the northern side of Moffat substation.

2.4 The landscape surrounding the proposed OHL route largely comprises the lower lying and more settled agricultural valley of the River Annan and the western valley sides. However, the eastern part of the study area is characterised by more elevated land, featuring smooth rounded hills. The

[5] Should consent not be granted for Scoop Hill Community Wind Farm, then there will be no requirement for the Scoop Hill 132kV OHL Grid Connection, and any Section 37 consent granted will not be implemented.

elevation range across the study area is between approximately 80m Above Ordnance Datum (AOD) in the lower southern reaches of the valley floor, while the hill summits to the east include high points of 479m AOD at Craig Fell.

2.5 There are a number of scattered residential properties and farmsteads located along minor roads along the floor of the River Annan valley and on the lower slopes of hills to the east and west within the study area. The closest settlement is the village of Beattock, approximately 1km north-west of the existing Moffat substation. Minor roads and farm tracks link the properties to the east of the River Annan. To the west of the River Annan the M74, A701, B7076 and the West Coast Mainline all pass along the valley floor.

2.6 In terms of other existing electricity infrastructure in the surrounding area, the existing 400kV Scotland – England Interconnector OHL (ZV route) supported by steel lattice towers extends north-west to south-east across the study area, crossing the River Annan at Bearholm. The 400kV OHL connects to Moffat substation on the western bank of the River Annan, as shown in **Figure 1.2**.

Overhead Line Infrastructure

2.7 With an OHL of this nature, conductors (or wires) are suspended at a specified height above ground, incorporating minimum safety clearances and supported by wooden poles, spaced at intervals.

2.8 Conductors can be made either of aluminium or steel strands. Each OHL will include one three-phase circuit each with a separate underslung fibre wire for communication purposes. A separate fibre wire is required due to the high operating temperature of the phase conductors.

2.9 Conductors are strung from insulators attached to the steelwork at the top of the pole and prevent the electric current from crossing to the pole body.

Wood Pole Structure

2.10 The proposed OHLs will be constructed using Double Trident 'H' wood poles with galvanised steelwork on top of supporting aluminium conductors on insulators.

2.11 The proposed design is described below, and examples of typical pole designs are shown on **Figure 2.1**.

2.12 Wood poles can be used for single circuit lines operating at 132kV. Wood poles are fabricated from pressure impregnated softwood, treated with a preservative to prevent damage to structural integrity.

2.13 There are three types of wood pole structure, in terms of appearance:

- *Intermediate*: where the pole structure is part of a straight-line section;
- *Angle*: where there is a horizontal or vertical deviation in line direction of a specified number of degrees; and
- *Terminal*: where the overhead line terminates into a substation or on to an underground cable section via a separate cable sealing end compound or platform.

2.14 The double 'H' poles will allow a maximum deviation of up to 75 degrees. **Figure 2.1** illustrates 'H' pole variants of the intermediate, angle and terminal poles that will feature on each of the OHL circuits.

Wood Pole Heights and Span Lengths

2.15 The typical height of trident 'H' poles above ground (including steel work and insulators) varies from 10m to 15m.

2.16 The section of OHL between wood poles is known as the 'span', with the distance between them known as the 'span length'. Span lengths between wood poles average between 80m to 100m but can be increased if there is a requirement to span a larger distance due to the presence of a feature in the landscape such as a river or loch.

2.17 Wood poles are used to regulate the statutory clearances required for conductor height, which is determined by the voltage of the OHLs (the higher the voltage, the greater the safety clearance that will be required) and the span length between wood poles.

Wood Pole Colouring

2.18 Wood poles are dark brown when first erected and weather to a silver/grey after a period of about five years.

2.19 The wood pole top cross-arms are galvanised steel and support the aluminium conductors on stacks of grey insulator discs. Both the steelwork and aluminium will weather and darken after a few years.

Underground Cable

2.20 For technical reasons, a short section (approximately 310m in length) of 132kV underground cable is required to complete the connection of the two new OHLs into the existing Moffat substation. With an underground cable, the conductors are encased in insulated material and buried in a backfilled trench of suitable depth and width.

Moffat Substation

2.21 The Scoop Hill 132kV Connection Project will require the electrical capacity of the existing Moffat substation at Bearholm to be increased. This will be achieved by installing a new 400/132kV transformer, and two 400kV and 132kV circuit

breaker bays, all of which will be undertaken within the existing substation compound. The typical dimensions for the new transformer unit that will be installed within the existing substation compound are 20m x 7.5m x 11m. As part of the Section 37 application for consent, SPEN will seek a direction from Scottish Ministers under Section 57 (2) of the Town and Country Planning (Scotland) Act 1997 (as amended) that the associated works at Moffat substation be deemed to be granted alongside the other project components.

Construction Process

2.22 The construction of OHLs requires additional temporary infrastructure such as temporary accesses to pole locations. All have limited maintenance requirements, and all are subject to well-established procedures for dismantling/ decommissioning.

Wood Pole Construction

2.23 The construction of the OHLs will follow a well-established sequence of activities as outlined below:

- preparation of accesses and felling of woodland within wayleave corridor to allow safe operation of the OHLs;
- excavation of foundations;
- delivery of wood poles;
- erection of wood poles;
- delivery of conductor drums and stringing equipment;
- insulators and conductor erection and tensioning; and
- clearance and reinstatement.

2.24 Prior to constructing the OHLs, temporary working areas around each pole location will be required for foundation excavation and pole erection. Any vegetation that requires removal will be removed or lopped. Following commissioning of the OHLs, all equipment and temporary access of construction areas will be removed with the land being reinstated to as similar a condition as possible prior to the works having taken place.

2.25 The erection of the wood poles will require a small excavation to allow the pole brace block and/or steel foundation braces to be positioned in place. A typical pole excavation will be 3m^2 by 2m deep. The excavated material will be sorted and stored and used for backfilling purposes. No concrete is required.

2.26 Poles are erected in sections, i.e. between angle support poles and/or terminal support poles. The insulator fittings, and wood poles forming the pole support, will be assembled local to the pole site and lifted into position utilising a tracked excavator which excavates the foundations. The pole foundation holes will then be backfilled, and the pole stay wire supports attached to the ground in preparation for conductor stringing, erection and tensioning.

Access

2.27 Temporary accesses to all pole locations on each OHL circuit will be taken from the existing main road network wherever feasible, with the use of selected unclassified roads also likely to be required. The use of existing tracks and watercourse crossings will be maximised, with the upgrading of these where necessary.

2.28 The initial preference when taking temporary access is to use low ground pressure vehicles and plant. Where access is required to be taken through any sensitive areas identified during the environmental appraisal process, other less intrusive methods such as temporary steel matting, or timber roadways may be employed.

2.29 The use of temporary stone tracks is unlikely for the construction of wood pole connections. However, if small sections are required, all temporary tracks will be removed after commissioning with land being restored to as close to its former condition as possible.

Temporary Working

2.30 Temporary working areas will be required for the duration of the construction works. Temporary vehicular access is required to every pole location. Wood pole locations will have a working area of approximately 30m x 15m and could also extend to accommodate conductor pulling if required.

2.31 In some cases, the shape or size of the working area will be determined by nearby environmental or land use constraints, identified during the environmental appraisal process / prior to construction. Each working area will be taped off to delineate the area for environmental protection reasons.

2.32 Following the completion of the construction works, the temporary working areas will be reinstated and restored to former conditions.

Construction Timescales

2.33 Construction and erection of a standard double pole generally takes approximately half a day depending on ground conditions and location, i.e. construction may take longer if the ground is softer.

Operation and Maintenance

2.34 Whilst most OHL components are maintenance free, exposed elements which suffer from corrosion, wear,

deterioration and fatigue may require inspection and periodic maintenance. OHL cables generally require refurbishment after approximately 40 years. For UGCs, there is no set time frame but these are built to last a minimum of 40 years.

2.35 Any felled wayleave areas will also have to be managed to maintain the required clearances whilst the connection remains in service. Walkover surveys or flyovers will identify where there is a requirement to clear wayleaves of new growth.

Decommissioning

2.36 When the operational life of the proposed Scoop Hill 132kV OHL Connection comes to an end, it is possible that the line may be re-equipped with new conductors and insulators and refurbished. Alternatively, the OHL may be decommissioned fully.

2.37 Upon decommissioning of Scoop Hill Community Wind Farm, the wood poles will be removed in their entirety, with components re-used where possible. All ground disturbance will be fully reinstated.

Infrastructure Location Allowance

2.38 Whilst the final route for the OHLs will be refined through the design process, informed by the desk and field based environmental surveys, infrastructure components may require to be subject to further minor deviation to allow for unconfirmed ground conditions or unforeseen issues arising at the time of construction, including:

- pre-construction confirmation of dynamic environmental conditions e.g. the location of protected species;
- more detailed technical survey information, particularly for unconfirmed ground conditions such as the wooded areas;
- to provide further scope for the effective mitigation of any likely environmental effects;
- any minor alterations requested by landowners.

2.39 Micro-siting provides scope for further mitigation of potential effects. The proposed 'infrastructure location allowance' (ILA) will form part of the application for Section 37 consent and deemed planning permission and can be anticipated to be a planning condition attached to the Section 37 consent for the Scoop Hill 132kV Connection Project. Typically for a wood pole line, this ILA is 50m from the centre line of the infrastructure components.

Use of Natural Resources and Production of Waste

Use of Natural Resources

2.40 The Scoop Hill 132kV Connection Project will not require significant use of natural resources, including resources which are non-renewable or in short supply. There would be no major changes to land use within the local area as a result of the OHLs, with only minimal long-term land take required for the wood poles and underground cables, although a small area of land may require to be removed from forestry.

2.41 There would be no loss of soil, and peat, and the construction methodology would ensure that watercourse crossings did not give rise to any reduction in water quality or impede water flow, while there would be no requirement for potable water consumption.

Production of Waste

2.42 The Scoop Hill 132kV Connection Project will not give rise to any significant quantities of waste as a result of the installation of the OHLs and underground cables. Any soils or peat removed as part of the excavation of pole footings and cable trenches will be replaced in situ as per standard industry practice. Good practice waste management methods will be implemented during the construction phase. These will encourage the reduction, reuse and recycling of wastes. Mitigation measures will be put in place to further minimise the potential environmental effects associated with the storage and transportation of waste, with further details provided below:

- Waste will be generated, and will require management, at a number of construction stages including:
  - tree felling and clearance of vegetation along the route to enable access to pole locations and construction of the OHLs;
  - stripping of topsoil and excavation of materials for construction of poles and cable trenches; and
  - construction of ancillary works, including temporary working areas.

2.43 Measures to reduce possible environmental effects associated with the storage and transportation of waste will include:

- the careful location of stockpiles and other storage areas;
- the use of good practice in the design of waste storage areas and the use of suitable waste containers;

- the use of sheeting, screening and damping where appropriate and practicable;
- the control and treatment of runoff from soil and waste soil stockpiles;
- minimising storage periods;
- minimising haulage distances; and
- the sheeting of vehicles.

2.44 Any materials that cannot be reused will be disposed of according to relevant waste management legislation which will serve to address a number of possible environmental effects.

2.45 All of the above details will be enforced through a Site Waste Management Plan (SWMP) as part of the Construction Environmental Management Plan (CEMP), details of which will be further outlined in the Environmental Report to accompany the Section 37 application.

Environmental Management

2.46 The CEMP will be developed for the Scoop Hill 132kV Connection Project and adopted by the Principal Contractor during the construction phase. The principal objective of this document is to provide information on the proposed infrastructure and to aid in avoiding, minimising and controlling adverse environmental effects. Furthermore, this document will define good practice as well as specific actions required to implement mitigation identified in the Environmental Report to accompany the Section 37 application, measures to comply with planning conditions and / or other licencing or consenting processes.

2.47 The CEMP will be updated during the pre-construction phase and form part of the contractor documents between the Applicant and the appointed construction contractor.

Chapter 3
Screening Information

Existing Site Condition and Consideration of Potential for Significant Environmental Effects

3.1 This chapter presents the information required by Regulation 8 Parts 2 (c) and (d) and Schedule 3 of the EIA Regulations to inform the determination of whether any effects of the Scoop Hill 132kV Connection project are likely to be significant. The baseline findings of desk-based studies and field surveys undertaken to date are also presented, and consideration has been given to the adoption of potential mitigation measures to avoid or prevent significant effects where relevant. These measures should be considered when formulating a decision on the need for EIA. Based on the findings of the screening exercise, **Chapter 4** provides details of the environmental documentation which is proposed to be submitted in support of the Section 37 application.

Landscape and Visual Amenity

3.2 A landscape and visual appraisal has been undertaken, using desk-based information and supplemented by site visits, to identify and appraise route options as part of the routeing process. This considered susceptibility of the local landscape to the type of OHL proposed, general visual amenity, and potential visibility from residential and recreational receptors, as set out in The Scoop Hill 132kV Connection Project: Routeing and Consultation Report (October 2021). This appraisal concluded by recommending the route option which has the best potential to minimise visual effects upon receptors, and to make use of topography and woodland to minimise the geographical extent of effects upon the wider landscape.

3.3 Consideration of potential landscape and visual effects will continue to inform the iterative design and environmental appraisal process. There is opportunity, within technical parameters and balanced with other environmental considerations, to position individual wood poles in a way which further minimises their potential effect upon residential and wider landscape and visual receptors. This will be explored further in the detailed design process.

3.4 As part of the environmental information to be submitted in support of the Section 37 Application, a detailed appraisal of the potential effects on landscape and visual receptors will be undertaken. This will be based upon the final detailed design

information and will make reference to a computer-generated zone of theoretical visibility (ZTV) plan and visualisations (which will also be included in the Environmental Appraisal Report).

3.5 Informed by the type and scale of OHL infrastructure proposed (i.e. wood poles with an average height of 10 - 15m above ground), a study area of 2km is proposed for the Landscape and Visual Appraisal, as shown on **Figure 3.1**.

Baseline

3.1 The 2km study area is within the council area of Dumfries and Galloway. The landscape of the study area is varied and extends from the proposed Scoop Hill Community Wind Farm substation (in the south-east) to the existing Moffat 132kV substation at Bearholm (in the north-west) in the upper reaches of Annandale. To the east of the study area, the foothills of the Southern Uplands at Eskdalemuir contain the eastern valley side. Landcover typically consists of rough pasture and open moorland. To the west, the landscape comprises the broad, typically pastoral valley floor of the River Annan and the lower western valley side of Annadale. The River Annan flows from north to south through the study area. The narrow and incised southern extents of Moffat Dale skirt the northern edge of the study area.

3.2 The elevation range across the study area is between approximately 80m Above Ordnance Datum (AOD) in the lower southern reaches of the valley floor, while the hill summits to the east include high points of 479m AOD at Craig Fell.

3.3 Annandale is characterised by numerous settlements, scattered properties and farmsteads. This pattern is reflected across the study area, with a number of scattered residential properties and farmsteads located along minor roads along the floor of the River Annan valley and on the lower slopes of hills to the east and west (see **Figure 3.2**). The settlement of Beattock is located in the north-west of the study area. Minor roads and farm tracks link the properties to the east of the River Annan. To the west of the River Annan the M74, A701, B7076 and the West Coast mainline all pass along the valley floor.

3.4 In terms of existing development, the existing 400kV Scotland – England Interconnector OHL supported by steel lattice towers extends north-west to south-east across the study area, crossing the River Annan at Bearholm. The 400kV OHL connects to Moffat substation on the western bank of the River Annan.

3.5 In terms of recreational access, the Southern Upland Way and the Romans and Reivers Walking Route cross to the north of the study area. Parts of these routes are on the Core Path network (refer to **Figure 3.2**).

Landscape Designations

3.6 The northern extents of the study area fall within the locally designated Moffat Hills Regional Scenic Area (RSA) (refer to **Figure 3.1**). Views into, and along, Moffat Dale and the more incised upper reaches of Annandale on the western and southern extents of the RSA are noted in the Regional Scenic Areas Technical Paper[6]. 'Fine views' across the valley from the A701 towards the Moffat Hills are also recognised.

Landscape Character

3.7 The Routeing and Consultation Report contains an appraisal of landscape sensitivity based on the following local Landscape Character Types (LCTs) identified by LUC during the routeing process (refer to **Figure 3.1**):

- Foothills:
- Upland Fringe;
- Valley Floor with Woodland Belts; and
- Wooded Valley.

3.8 The 2019 web based NatureScot national landscape character assessments and the local LCTs above will be reviewed, to determine an appropriate baseline for the landscape appraisal.

3.9 The Landscape and Visual Appraisal will consider the potential for direct effects upon LCTs within which the OHLs are proposed and for indirect effects upon LCTs in the 2km radius study area, from which there is potential visibility of the OHL.

Visual Amenity

3.10 Visual receptors identified during the routeing process include:

- Residential receptors in Annandale, including scattered properties, farms and small property clusters (views from the settlement of Beattock will be very limited);
- Recreational users of long-distance trails (including the Southern Upland Way and Roman and Reivers Route), the National Cycle Network and Core Paths; and
- Road and rail users through Annadale including the M74 and West Coast mainline.

[6] Dumfries and Galloway Council, Regional Scenic Areas Technical Paper (Local Development Plan 2) January 2018

3.11 The Landscape and Visual Appraisal will consider the potential for effects upon these visual receptors, as shown on **Figure 3.2.**

Assessment

3.12 An initial indicative bare ground Zone of Theoretical Visibility (ZTV) has been prepared for the proposed route, as shown on **Figure 3.2**. The extent of the study area has been informed by the ZTV and professional judgement and defined on the basis that at distances greater than 2km (even though visibility may extend beyond this distance), significant effects on landscape character, the special qualities of the RSA and visual amenity are unlikely to occur in this context.

3.13 The ZTV, in conjunction with fieldwork has been used to inform the selection of representative appraisal viewpoints to be considered in the landscape and visual appraisal. Viewpoints have been identified to represent a range of receptors, distances and viewing experiences.

3.14 The proposed viewpoint locations are listed in the table below, and are shown on **Figure 3.2.**

Table 3.1: Proposed Appraisal Viewpoint Locations

VP Ref.	Name	Grid Ref.	Reason for selection
1	Newmills	309431 603043	To represent views from a minor high point on the Southern Upland Way and Core Path network, to the north of the site.
2	Minor road near Milton	309563 600710	To represent views for residents and road users from the lower valley floor in Annandale.
3	A701	308381 601081	To represents views for road users and scattered residents to west of Annadale.
4	Minor road, south of Moffat	309888 601954	To represent views by road users (including cyclists) when travelling south from Moffat.

3.15 The final appraisal viewpoint locations will be confirmed following the detailed design of the route alignment and will be subject to micro-siting in the field to take account of the presence of screening. Each viewpoint will be visited, and 360-degree photography will be captured, in accordance with guidance published by NatureScot[7] and the Landscape Institute[8], to illustrate the existing characteristics of the view. These characteristics will be detailed in the baseline description, prior to undertaking the assessment of visual effects.

3.16 Each viewpoint will be presented with baseline photography, wireline visualisations and photomontage visualisations to provide a photorealistic illustration of the change in view.

Conclusion

3.17 The proposed route is located within a landscape which has been altered by human influences including electricity and linear transport infrastructure, agriculture and settlement.

3.18 Design of the OHL will seek to further minimise potential effects upon receptors within the study area as far as practicable. As such it is considered unlikely that the Project will give rise to significant adverse effects on the landscape resource or landscape character. Whilst visual effects may be experienced these are likely to be geographically localised and are therefore not considered to be significant in EIA terms.

Ecology

Baseline

3.19 No field-based ecological surveys have been undertaken to date, however an assessment of available aerial imagery, coupled with a review of biodiversity designated sites (**Figure 3.3**) has allowed an initial, high-level understanding of ecological features.

3.20 Detailed ecological surveys, comprising an Extended Phase 1 Habitat Survey and Protected Species Walkover, will be undertaken in the 2022 ecological survey season (May – September). Surveys will be completed by professionally qualified ecologists in compliance with best practice methods.

Designated Sites

3.21 No statutory designated sites were identified within 1km of the proposed route. However, the proposed route passes

[7] SNH, Visual Representation of Wind Farms, Version 2.2 (February 2017). Available [online] at: https://www.nature.scot/sites/default/files/2017-07/A2203860%20-%20Visual%20representation%20of%20wind%20farms%20-%20Guidance%20-%20Feb%202017.pdf

[8] Landscape Institute, Advice on Photography and Photomontage, LI Advice Note 1/11 (March 2011). Available [online] at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/01/LIPhotographyAdviceNote01-11.pdf

through Beldcraig Wood, part of which is recorded as Native Woodland (NWSS) a non-statutory designation. A wider network of NWSS and other Ancient Woodland Inventory sites was identified within 1km of the proposed route.

3.22 The proposed route is located partially within the Central Southern Uplands Environmentally Sensitive Area (ESA). The ESA is a means of conserving, protecting and enhancing environmental features by the maintenance or adoption of agricultural methods.

Habitats

3.23 Available data suggests that much of the corridor is currently given over to intensive pasture. As a consequence, habitats along much of the route are likely to comprise heavily managed improved grasslands of limited ecological importance.

3.24 The proposed route passes over two watercourses, the Beldcraig Burn and the River Annan, both of which are likely to represent some ecological importance, however it is noted that the River Annan's riparian zone at this location is constrained by agricultural activity.

3.25 Two areas of woodland are bisected by the proposed route. Beldcraig Wood supports both native woodland and commercial forestry. The route crosses at the southernmost extent of the wood. A further area of apparently more semi-natural woodland is crossed at the River Annan, however the woodland corridor here appears to be very narrow and scrubby.

Protected Species

3.26 Owing to its agricultural land use, much of the proposed route is unlikely to support protected species populations. However, consultation has highlighted the potential presence of red squirrel and badger. An initial review of likely habitat structure supports these assumptions.

3.27 Similarly, the River Annan and Beldcraig Burn, which flows through the Belcraig Glen, are likely to offer suitable habitat for otter. The scale and likely structure of these watercourses, however, is likely to make them unsuitable for water vole.

Assessment

Designated Sites

3.28 The construction and operation of an OHL within the proposed route is unlikely to affect statutory designated sites, due to the lack of any structural or functional connectivity. There are likely to be impacts to the non-statutory Beldcraig Wood NWSS, however at this stage is considered unlikely that the integrity of the feature will be significantly undermined.

Habitats

3.29 Most of the habitats within the proposed route are likely to be common and widespread grassland assemblages associated with agricultural land uses. These features have limited ecological importance.

3.30 Small areas of native woodland may be affected by construction activity, however the scale of the works, and associated tree loss, is unlikely to affect the ongoing viability of these features. Further mitigation measures are described below.

3.31 The OHL will cross two watercourses, however proposed construction methods mean that bank structure and vegetation will be retained. Mitigation measures, particularly in relation to pollution prevention are detailed below.

Protected Species

3.32 Protected species are likely to be absent from much of the proposed route, owing to current agricultural land uses. However, red squirrel, badger and otter may be present in Beldcraig Wood and along the Beldcraig Burn and River Annan.

3.33 Individual trees within Belcraig Wood may have potential to support roosting bats.

3.34 Protected species may be affected by small scale habitat loss which, in turn, may lead to a loss of sheltering, foraging and commuting opportunities. Pollution events may result in loss of life, particularly for otter. Further mitigation measures are detailed below.

Mitigation

Habitats

3.35 Detailed habitat and vegetation surveys scheduled to be undertaken in Summer 2022 will identify the most ecologically important habitats within the proposed route. These are likely to include native woodland features. The findings of surveys will be set out in a detailed Ecological Appraisal.

3.36 Where possible, the ILA will be applied to allow minor deviations in route to best protect these features, and this will be advised by an Ecological Clerk of Works (ECoW) during construction.

3.37 Similarly, methods established in the CEMP, including the application of rigorous pollution prevention measures, will further protect sensitive features. Note that where surveys identify sensitive woodland ground flora, these will be protected during construction via appropriate matting. This measure will protect the seedbank.

Protected Species

3.38 Generic protected species walkover surveys will identify the locations of sheltering and resting sites. The findings of surveys will be set out in a detailed Ecological Appraisal.

3.39 Where possible, the ILA will allow for the protection of sheltering and resting sites. Where this is not possible, the NatureScot licensing system will be used to ensure works are completed in full compliance with welfare and conservation standards. Any micrositing required to protect sensitive species will again be advised by the ECoW during construction.

3.40 More broadly, the CEMP will capture measures relating to lighting, waste management and vegetation removal, further protecting protected species foraging and commuting requirements. If required, Species Protection Plans will be prepared.

Conclusion

3.41 Subject to verification via the suite of habitat and protected species surveys, it is considered that, while the proposed construction and operation of the Scoop Hill 132kV Connection Project may result in small scale, mitigable effects on ecological features, these are unlikely to be significant.

Ornithology

Baseline

3.42 The proposed route does not pass through any site designated for its ornithological interest and none are present within 5km. The only site within 20km where birds appear as qualifying features is Castle Loch, Lochmaben SPA located 19km to the south, designated for non-breeding pink-footed goose. The Castle Loch, Lochmaben SPA has potential ornithological connectivity with the Scoop Hill 132kV Grid Connection Project as pink footed geese have a maximum foraging range of 15-20km[9]. However, there are no known recent goose feeding areas near to the OHL route[10] and at this distance, substantial connectivity that may lead to adverse impacts on site integrity can be ruled out.

Assessment

3.43 A desk-based review of ornithological information was undertaken, including reference to ornithology data presented in the EIA Report and Appendices for the proposed Scoop Hill Community Wind Farm adjacent to the proposed OHL route.

3.44 A field survey programme was discussed with NatureScot, to collect baseline ornithology data on the local breeding bird community. Thirty-six hours of vantage point (VP) watches were undertaken between April and August 2021 to record bird flight activity over the proposed OHL route. Watches were undertaken from a single VP **(Figure 3.4)**. A three-visit breeding bird walkover survey on open-ground habitat within 250m of the proposed OHL route will be undertaken between April and July 2022.

3.45 The desk study and field surveys undertaken to date confirm that the study area has moderate bird interest in the breeding season. Two specially protected raptor species have historic nesting sites within 2km of the proposed OHL route; peregrine approximately 580m distant and osprey, approximately 1900m distant. There is also a nesting barn owl record, approximately 420m distant.

3.46 Flight activity by target species (Annex 1/Schedule 1 raptors, black grouse, waders, and wildfowl) was low during the 2021 breeding season. Five red kite flights were recorded but only one was within the flight activity survey area, and this was above the height of the proposed OHLs. In addition, twelve osprey flights were recorded but all of them outside the flight activity survey area, and more than 1km form the proposed OHL route **(Figure 3.4)**. No peregrine flights or sightings were recorded. No barn owls were recorded. No breeding waders were recorded.

3.47 Ornithology surveys to collect baseline data on the non-breeding bird community are not considered necessary. Habitats surrounding the proposed route are not optimal for sensitive wintering bird populations, like migratory wildfowl and waders, with no evidence that feeding geese use the area in the winter months[2]. Also, although the proposed OHL route may be overflown by migrating wildfowl like geese and swans, the presence of the larger existing 400kV OHL running near to the proposed OHL for much of its length, means that the susceptibility of migrating birds to collision will be substantially reduced.

Conclusion and Mitigation

3.48 On this basis, no significant effects on bird populations are predicted for the Scoop Hill 132kV Grid Connection Project.

3.49 Consideration will be given to marking sections of the OHL in close proximity to any identified breeding bird locations, where habitual elevated levels of flight activity may occur.

[9] SNH (2106) Assessing Connectivity with Special Protection Areas (SPAs). Guidance. Version 3 – June 2016. SNH, Battleby

[10] Mitchel, C. (2012) Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge. 108pp.

Hydrology, Geology and Peat

Baseline

Designated Sites

3.50 There are no designated sites nearby or downstream of the proposed OHL that would potentially be impacted by the development.

Hydrology and Water Quality

3.51 Surface water features were identified using Ordnance Survey (OS) mapping and aerial imagery. The proposed route crosses three watercourses; the Beldcraig Burn, Howbeck Gill and the River Annan (see **Figure 3.5**).

3.52 The Beldcraig Burn is a tributary of the River Annan and flows in a south westerly direction within a deeply incised, well-vegetated valley, known as Beldcraig Glen. Based on LiDAR Phase 3 terrain data, the valley is ~20m deep and 115m wide, although the burn itself is only ~5-6m wide at the bottom of the Glen (see **Image 3.1**). The catchment area of the burn at the OHL crossing location is 7.3km^2 from the Flood Estimation Handbook (FEH) Web Service[11]

Image 3.1; Beldcraig Burn

3.53 The Howbeck Gill is a small tributary of the River Annan, which flows in a westerly direction and is ~2m wide at the OHL crossing location. The Howbeck Gill is too small to be on the FEH Web Service and has an estimated catchment area of 0.08km^2 based on LiDAR data.

3.54 The River Annan is a large, ~40m wide river which flows in a southerly direction and has a catchment area of 216km^2 at the OHL crossing location. There is a SEPA gauge (No. 78006) approximately 1km downstream of the crossing location, where flows have been recorded since 1984. The mean flow of the River Annan, as measured at the gauge is 9.2m^3/s.

3.55 The River Annan (waterbody ID 10642), is registered under the River Basin Management Plan (RBMP) and was classified as having 'Poor' ecological status in 2020, based on data from SEPAs Water Classification Hub[12]. The other two watercourses are too small to be classified under the RBMP.

Flood Risk

3.56 Based on the SEPA Flood Maps[13] the 200 year and 1000 year predicted floodplains of the River Annan are wide and the low-lying area on the western bank of the river is considered to be at flood risk. The 200year floodplain is ~470m wide at the proposed OHL crossing location.

3.57 The SEPA 200-year floodplain of the Beldcraig Burn is largely constrained within the channel and is narrow (~10m wide).

3.58 They are no areas of surface water flooding (pluvial) within the route corridor.

3.59 Flood risk from the small Howbeck Gill watercourse is not mapped by SEPA and is not considered to be significant.

Existing Drainage

3.60 Watershed analysis was carried out in GIS software using the LiDAR topographic data to derive surface water flow paths. The proposed route drains towards the River Annan, either directly or indirectly, via tributary watercourses.

3.61 A small part of the southern section of the route drains to the south towards the Mirk Gill watercourse to enter the River Annan much further downstream. The remainder of the route either drains towards the Beldcraig Burn or directly to the River Annan.

Groundwater Dependent Terrestrial Ecosystems

3.62 Ecology habitat surveys will be undertaken between May to September 2022 to establish the presence of Groundwater Dependent Terrestrial Ecosystems (GWDTE) within the study area.

Geology

3.63 The British Geological Survey 1:50k Bedrock maps indicate that the proposed route is located on sandstones and conglomerates of the Hartfield Formation. These sedimentary rocks are fluvial, lacustrine and marine in origin.

[11] https://fehweb.ceh.ac.uk/GB/map
[12] https://www.sepa.org.uk/data-visualisation/water-classification-hub/
[13] https://map.sepa.org.uk/floodmap/map.htm

3.64 The BGS 1:50k Superficial Deposits map indicates that the drift deposits comprise, from south to north:

- Devensian Glacial Till on the slopes of The Dod hill. These detrital sediments are created by the action of ice and meltwater and can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary.
- Glaciofluvial deposits, comprising gravel, sand and silt further north. These sedimentary deposits are detrital, generally coarse-grained, they form beds, channels, plains and fans associated with glacial meltwater.
- Alluvium sediments are located within the valley floor of the River Annan and are composed of silt, sand and gravel that originate from a fluvial origin.

Hydrogeology

3.65 The BGS hydrogeology map shows that the site is located on a highly productivity aquifer (Class 2A) with flow being identified throughout fractures and discontinuities. The aquifer is classed as a regionally important aquifer up to 1500m thick with sandstones and breccias yielding up to 40L/s.

Peat

3.66 The SNH (now NatureScot) (2016) Carbon and Peatland Map is a GIS dataset that indicates the likely presence of carbon-rich soils, deep peat and priority peatland habitat at a broad scale across Scotland.

3.67 Based on the 2016 map, the entire route is not peatland, but is classed as mineral soils (Class 0). Therefore, peat is unlikely to be within the study area.

3.68 The James Hutton Institute Soil Map of Scotland indicates that the underlying soils in the southern and central part of the route are brown earth and forest soils of the Ettrick and Holywood soil associations. In the eastern part of the route close to the River Annan valley, the soils are mineral alluvial soils.

Private Water Supplies (PWS)

3.69 Dumfries and Galloway Council (DGC) were contacted on 14th October 2021 to request private water supply data for sources within close proximity to the preferred route option for the OHL. DGC provided details of nearby properties that are supplied via a private water supply (**Table 3.1**)**.** Only one PWS was noted on DGC's register within 1.5km of the proposed route, as shown in **Figure 3.5**.

3.70 DGC note that none of the other nearby remote properties have registered a private water supply with the council, therefore the individual property owners will be contacted by the hydrology team to confirm that they do not use a private supply.

Table 3.2: Private Water Supplies

Supply Name	NGR of Source	Type	No. of properties supplied	Distance from proposed route (km)
Milton Farm, Beattock	309455, 600706	Borehole	1	1.01 km

Assessment

3.71 The study area for the appraisal comprises the proposed OHL route corridor, buffered by 250m, and the watercourses and catchments located upstream and downstream. A 1.5km buffer from the OHL was used as the search area for nearby PWS.

3.72 Taking account of the findings of the work undertaken to date, and professional experience, whilst adopting a precautionary approach at this preliminary stage, potential effects associated with the proposed development are as set out below.

Hydrology, Flood Risk and Water Quality

3.73 Without embedded mitigation measures, the construction of the OHL supported on wood poles has the potential to directly impact the River Annan and its tributaries; for example, via the release of silt laden runoff from exposed sediments, during excavation and construction of the wood poles or during the construction of temporary watercourse crossings, if required.

3.74 The OHL wood pole foundations and construction work areas affect a relatively small area (30m x 15m maximum where required) and no concrete will be used. Thus, it is considered unlikely that the proposed development will have impact on surface water run-off, hydrology and flood risk during construction or operation.

3.75 The River Annan has a wide, low-lying floodplain that is predicted to flood in a 200 year event. It is likely that some wood poles will have to be located within the floodplain, as the OHLs will be unable to span the floodplain. Given the small footprint of a wood pole base, it is considered unlikely that this will increase flood levels downstream and the effect is considered to be not significant.

Geology and Peat

3.76 The proposed OHL route is on mineral soils (with no peat present), hence it is considered that there will be no

impacts on geology and peat and it is scoped out of the environmental appraisal.

Private Water Supplies

3.77 Deep excavations can impact the quality and quantity of ground water and can impact private water supplies, if the excavation is upslope of the PWS and within the same source catchment area of the PWS. This can have a detrimental effect on PWS during construction.

3.78 Excavations for the wood poles are ~2m deep and very localised (3m^2) and are considered unlikely to have an effect on nearby PWS. No excavations are proposed for temporary access tracks at this stage.

3.79 The nearest known PWS is Milton Farm, which is over 1km away from the route corridor and on the opposite side of the River Annan valley from most of the proposed infrastructure. Based on an initial review of the PWS source location and catchment areas, and considering the small amount of excavation proposed, it is considered that construction of the OHL will not have a significant effect on this PWS.

3.80 However, there are a number of other remote properties within 1km of the proposed route, which may be supplied by a PWS (but are not on DGC's register). The nearest property being approximately 250m north of the route. Considering the small amount of excavation proposed for the wood poles, it is considered that construction of the OHL will not have a significant effect on nearby PWS. Notwithstanding, nearby properties will be contacted at the Environmental Appraisal stage to ascertain if they have a PWS and assessed accordingly.

Mitigation

3.81 The OHL route is proposed as far as reasonably practical from watercourses and other natural hydrological features. An infrastructure buffer from larger watercourses (River Annan) of ~50m was used at initial design stage and floodplains were avoided where possible. For smaller watercourses (the Beldcraig Burn and Howbeck Gill) a minimum buffer of 20m was applied. A 50m buffer from river banks was difficult to achieve given the short span distance of the OHL on wood poles (<100m) and the width of the River Annan.

3.82 Watercourse crossing (of access vehicles for construction) will be avoided where possible. The OHL will cross the River Annan and several tributaries, but construction works (and wood pole locations) will be set back from the watercourse by an appropriate buffer. Stringing the OHLs across watercourses will not impact the bed and banks. It is noted that some wood poles will not be able to avoid the 200 year floodplain on the western side of the River Annan. Mitigation measures will be put in place during construction to avoid working in flood conditions and the pole construction will be designed to remain operational during flood events.

3.83 Good practice mitigation measures will be implemented during construction to prevent pollution and minimise the impact of construction on the receiving water environment in line with the CEMP. SEPA Guidance for Pollution Prevention (GPP) will be followed, as will SEPA's general binding rules (GBR) under the Water Environment (Controlled Activities) Scotland Regulations 2011, as amended (CAR Regulations).

3.84 Good practice pollution prevention and control measures will be put in place during construction, which will reflect best practice guidance and recognised industry standards, as well as SPEN's recent experience of constructing OHLs. Many of the measures mitigate several potential effects (e.g., mitigation to minimise sedimentation and pollution such as Sustainable Drainage Systems (SuDS) which can also serve to attenuate surface water run-off). Embedded mitigation measures that are incorporated into project design will include:

- measures to reduce effects of increased surface water run-off;
- measures to reduce sedimentation and erosion;
- measures to reduce pollution and accidental spillage;
- measures to be put in place at temporary watercourse crossings; and
- measures to reduce sedimentation, erosion, and pollution during forestry felling.

Conclusion

3.85 With embedded mitigation and pollution control measures, and with avoidance watercourses where possible during the routing stage, it is considered that there will be no significant effects on hydrology, geology and peat during either the construction or operational phases of the Scoop Hill 132kV Connection Project.

Cultural Heritage

3.86 A full walkover survey has not yet been undertaken but this is proposed for Summer 2022.The appraisal presented below is informed by an appropriate range of desk-based sources, including Historic Environment Scotland (HES) designated asset data, Dumfries and Galloway historic environment record (DGHER) data, review of published information, and a review of historical and recent aerial photography and publicly-available LiDAR data.

3.87 A full walkover survey and historic environment assessment[14] will be conducted to accompany the application for Section 37 consent and deemed planning permission.

Baseline

3.88 The routeing study area, depicted on **Figure 3.6**, was adopted in assessing the potential for physical effects. A 3km study area was applied in sourcing HER data and in conducting an initial scoping exercise to understand the potential for significant effects as a consequence of setting change. This was subsequently reduced to 2km as the design of the route resolved and the potential for significant effects reduced.

3.89 The proposed route is located largely on the west-facing slopes of Annandale, on the eastern fringes of the Southern Uplands. The River Annan and its floodplain have been a key communication route since the earliest times, and the strategic importance of this route is reflected in the presence of substantial prehistoric, Roman and medieval fortifications along its length. The wider landscape has a rich cultural heritage, with remains dating from early prehistory through to the medieval and post-medieval periods occurring at relatively dense distributions.

3.90 The study area itself is principally composed of pastoral farmland, crossing small areas of woodland and the River Annan itself, before meeting the existing Moffat substation at its northeast corner. Extensive infrastructure, including the M74 motorway, the West Coast rail line and the main England-Scotland 400kV interconnector lie within the western extent of the 2km study area.

Designated Cultural Heritage Assets

3.91 No designated assets are located within the proposed OHL route, or likely working areas associated with construction. Significant effects as a consequence of setting change are not anticipated. Three designated assets are located within the inner study area (shown on **Figure 3.6**), representing the breadth of the region's heritage. These are as follows.

Scheduled monuments

- Poldean: standing stone [SM12697]. A comparatively rare, and well-preserved, occurrence of a broadly third or second millennium BC asset type. Generally interpreted as serving a symbolic purpose, its association with the ancient route through Annandale and relationship to the river/floodplain is likely to play a role in its setting and cultural significance.
  The asset it located approximately 950m from the proposed route.
- Milton: Roman fort, fortlet and temporary camp(s) [SM676]. Sitting on a low hill above the floodplain of the Annan, this asset comprises an extensive multiperiod complex of successive Roman military installations, dating from the late first century (Flavian), through to mid-second century Antonine-era fortifications.
  The forts straddle the main north-south Roman road from Hadrian's Wall to Inveresk (Musselburgh), and at least three temporary camps located on the floodplain immediately east of Beattock underline the importance of this location as a staging post for troop movements through southern Scotland.
  A very small area of the northeast corner of the scheduled area lies within the inner study area and will not be subject to any works.

Listed buildings

- Breconside: tower house [LB16848, Category C]. Three-storey 16th-century tower house, with later alterations and probable 19th-century remodelling.
  Re-used as a farmhouse, and incorporated within a range of 19th-century farm buildings.
  The asset is located approximately 750m from the proposed route.
  This asset is likely to be screened from the OHL by intervening topography and woodland. No effects are anticipated.

Non-Designated Cultural Heritage Assets

3.92 While there are a number of non-designated heritage assets within the inner study area, no previously recorded assets lie within the proposed OHL route.

National importance

3.93 The most important group of non-designated assets relate to the extensive Roman activity in the area, comprising two sections of the principal road through Annandale [MDG5028; MDG8701]. These assets are considered to be nationally important. A possible secondary branch [MDG7271] is assessed as being of regional/local importance.

Regional importance

3.94 A later prehistoric fort, situated on the summit of The Dod hill (from which it takes its name) commands an extensive prospect up and down Annandale [MDG407], and provides an

[14] Within the meaning of the Chartered Institute for Archaeologists *Standard and guidance for historic environment desk-based assessment*

important illustration of the long-established strategic importance of the valley. One of a series of broadly contemporaneous forts along either side of the valley, it is part of a wider series of comparatively small and simple earthworks across the region and is interpreted as being of regional/local importance.

3.95 The HER records a very extensive series of burnt mounds[15] spanning the eastern portion of the study area, following watercourses on the flanks of The Dod, Craig Fell and Breckonside Hill. This grouping is assessed as being of regional importance, and worthy of further study to better understand its significance and association with other contemporaneous monuments.

3.96 A possible later prehistoric scooped settlement [MDG9993] is recorded on the northern edge of the study area, and is potentially visible on LiDAR. Field investigation is required to establish the nature, preservation and significance of this asset – which is assumed to be more than local for the purposes of this assessment.

3.97 Enclosures / possible later prehistoric settlements are recorded on Cocket Height [MDG5549] and Breckonside Hill [MDG5532]. The former is not visible on LiDAR, and therefore field investigation is required to confirm its nature, preservation and significance. It is possible that recent land use change or changes in management practices has resulted in further damage to these assets. The HER assigns a regional/local value to both assets, and this has been applied for the purposes of assessment.

Local importance

3.98 Assets of lower importance across the study area generally relate to post-medieval agriculture, including the abandoned farmstead of Craigfield, on the eastern side of the study area [MDG10462]. Depicted as roofed on the first edition of the Ordnance Survey map, this asset does not appear to have gone out of use until the early-mid 20th century.

Archaeological Potential

3.99 The archaeological potential of the site is considered to be moderate to high. While much of the landscape has been subject to agricultural improvement and some intensification, the largely pastoral model of agriculture suggests that preservation of features ploughed down to ground level may be good.

Assessment

Potential for Physical Effects

3.100 No recorded assets lie within the proposed route of the OHL. It is therefore anticipated that physical effects can be avoided entirely through the application of construction good practice measures.

Potential for Effects as a Consequence of Setting Change

3.101 The introduction of the OHLs to the landscape will necessarily result in a measure of change to the setting of some assets. There is already major electricity transmission infrastructure within the study area (most notably the main England-Scotland 400kV interconnector, and the Moffat substation), which is considerably larger than the proposed OHLs and is a feature on the skyline for much of this portion of Annandale south of Moffat.

3.102 Anticipated effects arising as a consequence of setting change are as follows:

- **The Dod hillfort** [MDG407].
  Asset of regional/local importance. Setting makes an important contribution to the cultural significance of the asset – principally in terms of the strategic value of extensive panoramic views up and down Annandale. The asset is likely to have been intended to be an impressive structure, but this prominence in the landscape has been reduced through the effects of time and agricultural attrition.
  It is anticipated that the introduction of the OHLs will change the setting of the asset , and the OHL will be below eye level in views from the asset. It is assumed that the substation for the Scoop Hill Community Wind Farm would be in situ, and that the OHL would be viewed in the context of this, and other, infrastructure connected with that scheme. In views to the north-west and west, this would be viewed in the context of the far larger and taller 400kV interconnector. The archaeological value of the asset, its setting relationships and the ability to understand the same, would remain intact. However, the experience of the asset would be changed to some extent as a consequence of the visual intrusion of the OHLs, combined with the presence of the Scoop Hill substation, in an otherwise undeveloped section of landscape – albeit with views to large-scale infrastructure beyond. These changes would give rise to a level of change that would have an adverse effect on the asset's cultural

[15] early prehistoric, generally Bronze Age, assets comprising mounds of fire-cracked / burnt stone. Interpreted uses range from ritual (e.g. heating 'sweat-lodge' type temporary structures) through to more prosaic cooking of foods with heated rocks. Dumfries and Galloway has a notably dense distribution of these assets, unusually for southern Scotland. However, research bias may play a role in differential recognition.

significance but would not be considered significant for the purposes of EIA. In this scenario, the setting of the fort would already have been significantly altered by the introduction of the Scoop Hill Community Wind Farm in views to the north, east, and south-east.

- **Mirk Gill burnt mounds** [MDG5596; MDG5577]. Assets of regional/local importance (part of a wider group of potential regional importance). Setting makes a comparatively limited contribution to the cultural significance of these assets. Their principal relationship is with the Mirk Gill watercourse, with which they share a probable functional link. Burnt mounds in southern Scotland are generally smaller than their counterparts in Caithness, Sutherland and the Northern Isles. Lacking the possible monumental aspect of those longer-lived sites, they are found in higher densities and are interpreted as representing short-lived, localised activity rather than repeated/continuous usage over a period of time. Prominence in the landscape is not therefore a significant consideration.
  Introduction of the OHL will intrude on views to the assets when approached up the Mirk Gill. However, this will not change the ability to understand or appreciate the assets or their key relationships with the watercourse.
  This change would result in adverse effects to the asset's cultural significance but would not be considered to be significant for the purposes of EIA.

3.103 While other assets in the wider landscape have been identified as being sensitive to setting change, the development will be viewed in context with, and behind, the 400kV interconnector. These are:

- Milton: Roman fort, fortlet and temporary camp(s) [SM676].
- Poldean: standing stone [SM12697].

3.104 The introduction of the OHL would be perceptible in views from the above assets but would not change either the setting relationships of the assets, nor their experiential qualities.

Mitigation

3.105 A full walkover survey and historic environment assessment (HEA) will be conducted to provide evidence in support of the Section 37 application. This will confirm the anticipated levels of effect and facilitate testing of intervisibility using ZTVs and visualisations produced for the landscape and visual appraisal. As indicated above, direct physical effects can readily be avoided. The baseline information and appraisal will inform detailed infrastructure design to manage the risk of accidental damage during construction and optimise opportunities to further reduce setting change to key assets.

3.106 A CEMP will be prepared to ensure that appropriate protective measures are taken to safeguard heritage assets at risk from accidental damage during construction, and to establish procedures in the event of discovery of potential archaeological remains.

Conclusion

3.107 Subject to the field survey and HEA confirming the assessment of effects, it is anticipated that although the proposed route will result in limited effects to cultural heritage assets arising from change in their settings, these are unlikely to be significant.

Forestry

Baseline

3.108 The proposed route passes for a distance of approximately 2.4km between Scoop Hill substation and Moffat substation. On exiting the Scoop Hill substation the OHL runs over an area of open hill land for approximately 930m) before arriving at Beldcraig woodland. The OHL then passes for a distance of 170m through Beldcraig Wood. To the south of the Beldcraig burn, the woodland is predominately conifer and to the north of the burn it is birch dominated woodland. The OHL then passes over an area of open agricultural land before crossing the riparian broadleaf strip of woodland on both banks of the River Annan. After a short section over agricultural fields, the OHL arrives into Moffat substation which has a mixed species woodland planted around it to screen the substation. This is shown on **Figure 3.3**.

Assessment

3.109 It is proposed to fell a corridor 120m wide for a distance of 70m , resulting in the felling of 0.91ha of commercial coniferous forestry.

3.110 After crossing the Beldcraig Burn, the route then passes through 95m of Native Woodland Survey of Scotland (NWSS) registered Upland Birchwood. It is proposed to fell a corridor of these trees to a width of 120m over a distance of 95m . The tree clearance required will be1.15ha of mixed broadleaved woodland.

3.111 The route then passes through open agricultural land for a distance of 1,120m where it crosses the River Annan and passes through an area of riparian broadleaves. It is proposed to fell a corridor of these trees to a width of 120m over a distance of 25m resulting in the felling of 0.29ha of mixed broadleaved woodland.

3.112 After crossing the River Annan and 130m of agricultural land, the route enters the Moffat substation screening plantation. Approximately 0.77ha of afforested ground is to be felled, over a distance of 270m for the underground cable.

Mitigation

3.113 The loss of forestry as a result of the Scoop Hill 132kV Connection Project equates to 0.91ha of commercial coniferous forest and 2.21ha of mixed broadleaf forest. However, opportunities exist to further reduce potential forestry loss through detailed design of the OHL, and this will be explored as the project progresses. Mitigation will take the form of offsite compensatory planting equating to the area of forest lost by this proposal.

3.114 This mitigation plan is in keeping with the Scottish Government policy on Control of Woodland Removal 2009 and further Scottish Government implementation guidance 2019.

Conclusion

3.115 On the basis of the committed delivery of the compensatory planting proposed there will be no significant forestry effects during either the construction or operational phases of the Scoop Hill 132kV Connection Project.

Traffic and Transport

3.116 The study area, defined as being within 2km of the proposed route, is serviced by a number of minor roads, which provide access and transport routes to residences and the wider strategic road network. As outlined in **Chapter 2**, there are a number of scattered residential properties and farmsteads located along minor roads along the floor of the River Annan valley and on the lower slopes of hills to the east and west within the study area. The closest settlement is the village of Beattock, approximately 1km north-west of the study area. Minor roads and farm tracks link the properties to the east of the River Annan. To the west of the River Annan the M74, A701, B7076 and the Carlisle Line railway all pass along the valley floor.

3.117 The construction of the Scoop Hill 132kV Connection Project will require access to each pole location using a range of access options. This will primarily involve the use of a tracked excavator and/or low ground pressure vehicles to deliver, assemble and erect each wood pole structure at each location, as outlined in **Chapter 2**. Where feasible, access will be taken from the existing road network and the use of existing forestry tracks and watercourse crossings will be maximised, with the upgrading of these where necessary. Trackway is also an option. It is unlikely that temporary stone access tracks would be required unless ground conditions deteriorate notably from the current baseline.

3.118 Where access is required to be taken through any sensitive areas identified during the environmental appraisal process, other less intrusive methods such as temporary steel matting, or timber roadways may be employed.

3.119 Due to the nature, design and rate of construction of the OHL (approximately half a day per pole depending on ground conditions and location[16]), it is expected that vehicle movements at any one wood pole location would be limited over the course of the construction period. Therefore, there are unlikely to be any significant effects arising from traffic and transport on the local road network during construction of the Scoop Hill 132kV Connection Project. SPEN is committed to implementing accepted good practice during construction, thereby ensuring that many potential effects in relation to access, traffic and transport activity can be avoided or reduced.

Conclusion

3.120 On the basis of the short-term nature of the construction process, the geographic spread of the construction works and public road network, and SPEN's commitment to appropriate management of traffic during construction, it is considered that there will be no significant traffic or transport effects during construction.

3.121 Whilst no significant effects are anticipated, a Construction Traffic Management Plan (CTMP) will be produced as part of the wider CEMP for the construction phase of the Scoop Hill 132kV Connection Project to monitor and minimise traffic effects.

Noise

3.122 Due to the short term and localised nature of the construction process (including construction traffic), any temporary noise created during construction is likely to be minimal and concentrated in small areas at any one time as the contractor's progress along the course of the route. Due to the rural nature of the Scoop Hill 132kV Connection Project, with few scattered residential properties and farmsteads in close proximity to the proposed OHLs (the closest property at Woodfoot is approximately 470m from the proposed route) and the low level of noise generated by OHLs (even in wet conditions), operational noise levels would likely be imperceptible relative to background for any receptor in proximity to the OHL.

[16] Note angle poles and H-poles can take longer due to the need for 'stay wires' to stabilise the pole in the ground.

3.123 In addition, SPEN is committed to implementing accepted good practice measures for controlling construction noise, which may include the following, as appropriate:

- restricted hours of construction work to avoid sensitive periods;
- the use of equipment with appropriate noise control measures (e.g. silencers, mufflers and acoustic hoods);
- the positioning of temporary site compounds as far as practicably possible from neighbouring residential properties; and
- additional good practice measures as set out in BS5228:2009.

Conclusion

3.124 On this basis, it is not anticipated that there will be significant noise effects during either the construction or operational phases of the Scoop Hill 132kV Connection Project.

Other Issues

Air Quality

3.125 The proposed route is located in a predominantly rural area largely defined by the lower lying and more settled agricultural valley of the River Annan and the western valley sides. Settlements are sparse, with a number of scattered residential properties and farmsteads located along minor roads along the floor of the River Annan valley and on the lower slopes of hills to the east and west. The closest settlement is the village of Beattock, approximately 1km north-west of Moffat substation and outside of the proposed route. There are approximately eight properties within 500m of the proposed route.

3.126 During construction, potential adverse effects may occur as a result of emissions of waste exhaust gas from construction plant and vehicle. These exhaust gases would include NO_x, NO and PM_{10} pollutants. Dust generated as a result of construction activities can result in temporary effects if unmanaged, for example, nuisance effects such as soiling of buildings and, if present over a long period of time, can affect human health. Activities likely to result in dust being produced during construction include earthworks (e.g. earth moving and excavation), material handling (e.g. stockpiling and loading/unloading vehicles), natural causes, e.g. wind blowing on stockpiles and uncovered vehicles, material transport and traffic on unsurfaced roads, and the movement of dirty vehicles. Given the limited amount of excavation works proposed (and thus limited need for large construction plant) and the distance at which properties are to the OHLs, it is not considered that effects on air quality and dust generation will result in significant effects.

3.127 Nevertheless, best practice mitigation measures will be implemented to avoid and minimise air quality and dust effects through the following measures:

- the recorded maintenance of vehicles/plant and checks before use;
- vehicle/plant servicing as appropriate;
- measures to ensure that vehicles/plant are turned off when not in use; and
- appropriate dust control measures such as those outlined in PAN 50: Controlling the Environmental Effects of Surface Mineral Workings.

3.128 These mitigation measures will be included in the CEMP.

Conclusion

3.129 On this basis, it is not anticipated that there will be any significant adverse effects on air quality during either the construction or operation stages of the Scoop Hill 132kV Connection Project.

Land Use

3.130 Based on the Macaulay Institute's land capability for agriculture classifications[17], the predominant land use capability classes within the 2 km proposed route are:

- 4.1: Land capable of producing a narrow range of crops; enterprises are based primarily on grassland with short arable breaks.
- 4.2: Land is primarily suited to grassland with some limited potential for other crops (barley, oats and forage crops).
- 5.1-5.3: Land capable of use as improved grassland;
- 6.1 – 6.3: Land capable of use only as rough grazing.

3.131 Land capability classes 4, 5 and 6 are considered not to be 'prime agricultural land' and are used predominantly for grazing and commercial forestry, with little (or no) arable agricultural uses occurring. In relation to any existing land uses, effects are limited to short term disturbance during construction as, in the longer term, land use can continue underneath the OHL

[17] The James Hutton Institute (2019), 'Land Capability for Agriculture in Scotland', Available [online] at: https://www.hutton.ac.uk/learning/exploringscotland/land-capability-agriculture-scotland, Last accessed on: 03/03/2022.

Conclusion

3.132 As areas lost to the pole locations are small in size, and land use activities can continue as per current uses, effects on agricultural activity are not likely to be significant.

Major Accidents and Disasters, Human Health and Climate Change

3.133 The proposed route is not located in an area with a history of natural disasters such as extreme weather events. The area surrounding the OHL is sparsely populated with few local roads and non-public vehicle access tracks.

3.134 Effects of climate change on electricity line infrastructure such as increased wind-loading, changes to ground conditions and flooding from extreme rainfall events are considered as part of the design of the infrastructure. Baseline greenhouse gas (GHG) emissions are likely to be limited to local traffic due to the rural nature of the surroundings and forestry felling.

3.135 As the proposed route will comprise of twin 132kV OHLs carried on wooden poles, the typical levels of electric magnetic field (EMF) strength generated by the Scoop Hill 132kV Connection Project (directly under the OHL) is likely to be a maximum of 1 microtesla (μT) and 0.583 kilovolts per metre (kV/m)[18]. This compares with the recommended guidelines which stipulate a maximum exposure limit of 360μT and 9kV/m, respectively[19]. These levels reduce considerably with distance from the OHLs.

3.136 Construction work would comply with the approved CEMP to minimise risks throughout the construction stage. In addition, construction will be managed under the Construction (Design and Management) Regulations 2015 and the Health and Safety at Work etc. Act 1974.

3.137 Accidental contact with live lines or the structural collapse of poles is the primary source of major accident and disaster risks for the Scoop Hill 132kV Connection Project. During construction, minimal distances can be set to avoid contact with plant and vehicles, with signage indicating clearance heights to be maintained. Risk of electrocution signs would be positioned on each pole along with the underground sections being identified with visible markers and, where necessary, barriers put in place to restrict access. Vegetation under the OHLs will be maintained during operation to ensure it does not come into contact with the OHL conductors.

3.138 The wood poles will be situated at a suitable distance away from potential receptors so that, in the unlikely event of collapse, the risk of injury or harm is minimised. Furthermore, the poles will be inspected regularly during operation to ensure that any structural integrity issues are identified before potential collapse, along with the associated infrastructure (such as brackets and insulators) which will also be inspected to maintain the safe operation of the Scoop Hill 132kV Connection Project.

Conclusion

3.139 On the basis of the above, significant adverse effects associated with major accidents and disasters, on human health and climate change are considered unlikely.

Cumulative Effects

3.140 In addition to the Scoop Hill 132kV Connection Project connecting from the proposed Scoop Hill Community Wind Farm to Moffat substation, the proposed 75 turbine Scoop Hill Community Wind Farm itself lies to the east of the study area.

[18] https://www.emfs.info/sources/overhead/specific/132-kv/, Last accessed: 04/03/22

[19] http://www.emfs.info/limits/limits-organisations/icnirp-1998/, Last accessed: 04/03/22

Chapter 4
Scoping of Environmental Topics

4.1 Following on from the analysis covered under the environmental topic headings (**Chapter 3**), **Table 4.1** below, identifies those topics that are considered relevant to include in the Environmental Report (i.e. 'scoped in') and those are not considered to need a detailed assessment ('scoped out').

4.2 An introductory chapter within the Environmental Report will identify the topics that have been scoped out and will provide sufficient information to confirm the basis that an appraisal of these is not required. If it is determined that an appraisal is required, the findings for the topic will be included within the Environmental Report.

4.3 Both the construction and operational stages of the Scoop Hill 132kV Connection Project are addressed within the **Table 4.1** below.

Table 4.1: Topics scoped in or out of the Environmental Report

Environmental Topics	Construction Stage	Operational Stage
Landscape and Visual Amenity	IN	IN
Ecology	IN	IN
Hydrology, Flood Risk and Water Quality, including Private Water Supplies	IN	IN
Geology and Peat	OUT	OUT
Ornithology	IN	IN
Cultural Heritage[20]	IN	IN
Traffic and Transport	OUT	OUT

[20] Subject to the field survey and HEA confirming the assessment of effects

Environmental Topics	Construction Stage	Operational Stage
Forestry[21]	OUT	OUT
Construction and Operational Noise	OUT	OUT
Other Issues	OUT	OUT

Conclusion

4.4 This Screening Report has been prepared in accordance with the requirements of Regulation 8 and the criteria set out within Schedule 3 of the EIA Regulations. It is concluded that neither the characteristics nor location of the Scoop Hill 132kV Connection Project are likely to give rise to significant environmental effects. On this basis, it is not considered that the Proposed Development meets the requirements for EIA as set out within the EIA Regulations, and that an EIA is therefore not required.

4.5 However, it is recognised that, based on the desk and field surveys, consultation findings to date and professional judgement, the following environmental information will be provided within the Environmental Appraisal Report to support the Section 37 application for Consent:

- **Landscape and Visual:** project Zone of Theoretical Visibility (ZTV) for above ground components; verifiable photomontage from viewpoints; and a landscape and visual statement.
- **Biodiversity :** an appraisal of potential effects on ecology and ornithology.
- **Water Resources and Flood Risk:** an appraisal of potential effects on hydrology, flood risk. Water quality and private water supplies.
- **Cultural Heritage:** an appraisal of potential effects to cultural heritage assets arising from physical impacts and/or change in their settings.

[21] Final areas of felling will be set out in the project description chapter of the environmental appraisal.

Appendix A

Environmental Screening Checklist

EIA SCREENING CHECKLIST

The Scoop Hill 132kV Connection Project

Decision: EIA not required

Section 1: Project Information

	Please Describe	
Address or location of proposed development	132kV twin Overhead Line (OHL) Grid Connection between the proposed Scoop Hill Community Wind Farm substation (OS GRID REF: 311417) and the existing Moffat substation (at Bearholm) (OS GRID REF: 309435) in Dumfries and Galloway. A site location plan is provided as Figure 1.1.	
Site area (hectares)	The Scoop Hill 132kV Connection Project will be approximately 2.4km in length with a 120m wide wayleave through forestry (50m either side of the centre of each OHL and 20m space between the twin OHLs). Outside of forestry/woodland SPEN would seek to ensure land agreements protect the resilience of the OHL by controlling future development or planting which could conflict with the safe operation and maintenance of the infrastructure. The total site area of the proposed development is approximately 33ha.	
Brief description of the proposed development	A 132kV twin OHL supported on trident ('H') wood poles is required to connect the proposed Scoop Hill Community Wind Farm to the electricity network at the existing Moffat substation site at Bearholm. The typical height of trident poles above ground (including steel work and insulators) varies from 10m to 15m. Span lengths between wood poles average between 80m and 100m but can be increased if there is a requirement to span a larger distance due to the presence of a feature in the landscape such as a river or loch. A section of underground cable will also be required to connect the OHL to Moffat substation and will be approximately 310m in length. The proposed route for the Scoop Hill 132kV Connection Project and typical wood pole components of the 132kV Trident design wood pole is illustrated on Figures 1.2 and 2.1, respectively. Construction details are provided in Chapter 2 of the Screening Report. The proposals constitute Schedule 2 development in relation to The Electricity Works (EIA) Scotland Regulations 2017; where the proposals provide an electric line installed above ground with a voltage of 132kV and connect a generation station for which Section 36 consent is required.	
Type of Application		Application for planning permission

(please tick)		Application for planning permission in principle
		Application for the approval of matters specified in conditions
	✓	Other permissions – please state: EIA Screening Request

Section 3: Selection Criteria for Screening Schedule 2 Development

Selection Criteria	Yes/No	Briefly describe potential impact	Is this likely to result in a significant effect? Please explain
1. Characteristics of the Development			
(a) Size and design of the development			
Will the proposed development be out of scale with the existing environment?	No	The Scoop Hill 132kV Connection Project will be located next to existing generation and transmission infrastructure including the 400kV OHL and a substation. The proposed wood poles will have a maximum height of 15m above ground level. It is not considered to be out of scale with the existing environment.	No
(b) Cumulation with other existing and/or approved development			
Will the proposed development lead to further consequential development or works?	No	The proposed development is required to facilitate the connection of the proposed Scoop Hill Community Wind Farm to the electricity grid network at the existing Moffat substation. Upon decommissioning of the Scoop Hill Community Wind Farm, the wood poles will be removed in their entirety, with components re-used where possible. All ground disturbance will be fully reinstated	No

Selection Criteria	Yes/No	Briefly describe potential impact	Is this likely to result in a significant effect? Please explain
Are there potential cumulative impacts with other existing development, approved developments or developments the subject of valid applications?	Yes		No. Whilst no significant cumulative effects are anticipated, as part of the Environmental Appraisal Report to accompany the Section 37 consent, an appraisal of cumulative effects will be undertaken.
Should the application for the proposed development be regarded as an integral part of a more substantial project? If so, can related developments which are subject to separate applications proceed independently?	Yes	The Scoop Hill 132kV Connection Project is required to connect the proposed Scoop Hill Community Wind Farm to the electricity grid at Moffat substation. The application for the proposed Scoop Hill Community Wind Farm was submitted to the Scottish Government Energy Consents Unit (ECU) in November 2020 and is currently awaiting determination (ECU Reference: ECU00000533).	No. The significant effects in relation to the proposed Scoop Hill Community Wind Farm will be assessed separately and is subject to a separate application and consenting process.
(c) Use of natural resources, in particular land, soil, water and biodiversity			
Will the proposed development use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or are in short supply?	Yes	As noted above, a relatively small amount of land will be taken up by the proposed development, and the structure will be comprised primarily of wood. The erection of the wood poles will require a small excavation to allow the pole brace block and/or steel foundation braces to be positioned in place. A typical pole excavation will be $3m^2$ by 2m deep. For the underground cable (approximately 310m in length), the conductors will be encased in insulated material and buried in a backfilled trench of suitable depth (typically 523mm) and width (typically 1200mm)	No. The excavated material will be sorted and stored and used for backfilling purposes. No concrete is required.
(d) Production of waste			

Selection Criteria	Yes/No	Briefly describe potential impact	Is this likely to result in a significant effect? Please explain
Will the construction, operation or decommissioning of the proposed development produce wastes?	Yes	Some surplus material may be generated as a result of ground excavation when the wood poles and underground cable section is installed. No wastes will be generated once operational. Once decommissioned, the structure would be removed from site	No. Any surplus material generated during construction will be reinstated on site and the surrounding area reinstated to its original condition as far as possible. The excavated material will be sorted and stored and used for backfilling purposes. During decommissioning the wood poles will be removed in their entirety, with components re-used where possible. All ground disturbance will be fully reinstated.
(e) Pollution and nuisances			
Will the construction, operation or decommissioning phases of the proposed development release pollutants or any hazardous, toxic or noxious substances to the air?	No	No pollutants, hazardous, toxic or noxious substances will be released to the air during construction, operation or decommissioning.	No
Will the construction, operation or decommissioning of the proposed development lead to risk of contamination of land or water from releases of pollutants?	No	No pollutants, hazardous, toxic or noxious substances will be released to land or water during construction, operation or decommissioning.	No

Selection Criteria	Yes/No	Briefly describe potential impact	Is this likely to result in a significant effect? Please explain
Will the construction, operation or decommissioning phases of the proposed development cause noise, vibration or the release of light?	No	Due to the short term and localised nature of the construction process, any temporary noise created during construction is likely to be minimal and concentrated in small areas at any one time as the contractor's progress along the course of the route. Due to the rural nature of the surrounding area, with few noise-sensitive residential properties in close proximity to the proposed OHL (the closest property at Woodfoot is approximately 470m from the proposed route) and the low level of noise generated by OHLs (even in wet conditions), operational noise levels would likely be imperceptible relative to background for any receptor in proximity to the OHL	No
(f) Risk of major accidents and/or disasters which are relevant to the development concerned, including those caused by climate change, in accordance with scientific knowledge			
Will there be any risk of accidents during construction, operation or decommissioning of the proposed development which could affect the environment or human health?	No	All construction activities will be managed within the requirements of the Construction (Design and Management) Regulations 2015 and will not conflict with the Health and Safety at Work etc. Act 1974. Any risk identified during the proposed construction period will be reviewed in line with current regulations and best practise, with the preparation of a CEMP and Construction Method Statement being prepared prior to the commencement of development.	No
(g) Risk to human health			

Selection Criteria	Yes/No	Briefly describe potential impact	Is this likely to result in a significant effect? Please explain
Will the construction, operation or decommissioning phases of the proposed development involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health?	No	N/A	No

Schedule 3 Selection Criteria	Yes/No	Briefly describe potential impact	Is effect likely to result in a significant effect? Please explain
Location of the Development			
(a) Existing and approved land use			
Are there existing and/ or approved land uses in the locality of the proposed development site which could be affected by the proposed development?	No	As noted above, the Scoop Hill 132kV Connection Project will connect the proposed Scoop Hill Community Wind Farm substation to the existing Moffat substation. Existing OHLs are present in the landscape.	No
(b) Relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground			
Are there any areas on or around the location of the proposed development and its underground which contain important, high quality or scarce resources which could be affected by the proposed development?	No	The SNH (2016) Carbon and Peatland Map indicated the entire route is not located in peatland and is classified as mineral soils. Therefore, no peat is present in the study area.	No
(**c) Absorption capacity of the natural environment**			
Are there any areas on or around the application site that are protected under international or national legislation for their ecological, landscape, cultural heritage or other value which could be affected by the	No	The Scoop Hill 132kV Connection Project is not located directly within, or within close proximity to, any designated sites protected under international or national legislation for their ecological, landscape, cultural heritage or other value. Please	No

construction, operation or decommissioning of the proposed development?		refer to Figure 4.2 in The Scoop Hill 132kV Connection Project: Routeing and Consultation Report (2021)[1].	
Are there any other areas on or around the location which are important or sensitive for reasons of their ecology which could be affected by the proposed development? Particular attention should be paid to the following areas: wetlands, riparian areas, river mouths; (ii)coastal zones and the marine environment; (iii)mountain and forest areas; (iv) nature reserves and parks.	No	Detailed ecology surveys are due to be undertaken in the 2022 ecological survey season (May – September) and will comprise an protected species walkover. Most of the habitats within the proposed route are likely to be common and widespread grassland assemblages associated with agricultural land uses. The proposed route passes over two watercourses, the Beldcraig Burn and the River Annan. There are also two small areas of woodland that are bisected by the proposed route. Beldcraig Wood supports both native woodland and commercial forestry, with the route crossing the wood at its southernmost extent. A further area of apparently more semi-natural woodland is crossed at the River Annan, however, the woodland corridor here appears to be very narrow and scrubby.	No. As most of the habitats are likely to be common and widespread grassland assemblages associated with agricultural uses, these features will likely have limited ecological importance. Whilst the small area of native woodland may be affected by construction activity, the scale of the works, and associated tree loss, is unlikely to affect the ongoing viability of these features. Also, given the trident wood pole project design (and therefore limited footprint), it is not anticipated the effects of habitat loss will be significant.
Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora which could be affected by the proposed development?	No	Detailed ecology surveys are due to be undertaken in the 2022 ecological survey season (May – September) and will comprise an protected species walkover. However, owing to it's agricultural use much of the proposed route is unlikely to support protected species populations.	No

[1] SP Energy Networks (October 2021) The Scoop Hill 132kV Connection Project: Routeing and Consultation Report, Available [online]: https://www.spenergynetworks.co.uk/userfiles/file/Scoop_Hill_Routeing_and_Consultation_Document_FINAL_low_res.pdf

Are there any groundwater source protection zones or areas that contribute to the recharge of groundwater resources which could be affected by the proposed development?	No	N/A	No
Are there any areas on or around the location of the proposed development where environmental quality standards are already exceeded which could be affected by the proposed development?	No	N/A	No
Are there any areas on or around the location which are densely populated which could be affected by the proposed development?	No	There are a few scattered residential properties and farmsteads located along minor roads along the floor of the River Annan valley and on the lower slopes of hills to the east and west within the Study Area. The closest settlement is the village of Beattock, approximately 1km north-west of the existing Moffat substation.	No
Is the proposed development in a location where it is likely to be visible to many people?	No	Generally, there are relatively few visual receptors within the immediate vicinity of the proposed route. Visual receptors identified during the routeing process include the following: • Residential receptors in Annandale, including scattered properties, farms and small property clusters (views from the settlement of Beattock will be very limited); • Recreational users of long-distance trails (including the Southern Upland Way and Roman and Reivers Route), the National Cycle Network and Core Paths; and	No. The proposed route is located within a landscape which has been altered by existing , electricity and linear transport infrastructure, agriculture and settlement. Design of the OHL will seek to further minimise potential effects upon receptors within the study area as far as practicable. As such it is considered unlikely that the Project will give rise to significant adverse effects on the landscape resource or landscape character. Whilst visual effects may be experienced these are likely to be geographically localised and are

		• Road and rail users through Annadale including the M74 and West Coast mainline The height of the OHL, assumed to be between 10 and 15m above ground level means that visibility will be comparatively limited in the wider landscape due to intervening topography and vegetation.	therefore not considered to be significant in EIA terms.
Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the proposed development?	Yes	The Southern Upland Way and the Roman and Reivers Walking Route crosses to the north of the study area, with parts of these routes on the Core Path Network. However, these do not intersect with the proposed route.	No

Are there any areas of local landscape or scenic value on or around the location which could be affected by the proposed development?	Yes	In terms of landscape designations, there are no national landscape designations across the study area. The northern extents of the study area fall within the locally designated Moffat Hills Regional Scenic Area.	No. The proposed route is located within a landscape which has been altered by existing , electricity and linear transport infrastructure, agriculture and settlement. Design of the OHL will seek to further minimise potential effects upon receptors within the study area as far as practicable. As such it is considered unlikely that the Project will give rise to significant adverse effects on the landscape resource or landscape character. Whilst visual effects may be experienced these are likely to be geographically localised and are therefore not considered to be significant in EIA terms
Are there any areas of features of historic, cultural or archaeological value on or around the location which could be affected by the proposed development?	Yes	There are no designated heritage assets within the proposed route. The introduction of the OHLs to the landscape will necessarily result in a measure of change to the setting of some assets. There are three non-designated heritage assets of regional/local importance, The Dod Hillfort and Mirk Gill Burnt Mounds within the study area. The Dod Hill Fort is located approximately 150m to the north-east of the proposed route, whilst the Mirk Gill Burnt Mounds are located approximately <50m to the	No Direct physical effects can readily be avoided. The baseline information will inform infrastructure design and a CEMP will be prepared to manage the risk of accidental damage during construction and optimise opportunities to further reduce setting change to key assets. Subject to the field survey and HEA confirming the assessment of effects, it is anticipated that although the proposed route will result in limited

		south of the proposed route. It is not anticipated that either of these assets will experience significant effects as a consequence of setting change. While other assets in the wider landscape have been identified as being sensitive to setting change, the development will be viewed in context with, and behind, the 400kV interconnector. These are: • Milton: Roman fort, fortlet and temporary camp(s) • Poldean: standing stone The introduction of the OHL would be perceptible in views from the above assets but would not change either the setting relationships of the assets, nor their experiential qualities. A full walkover survey and historic environment assessment (HEA) will be conducted to provide evidence in support of the Section 37 application	effects to cultural heritage assets arising from change in their settings, these are unlikely to be significant. For the purposes of EIA.
Is the proposed development location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions?	No	There are no areas of surface water flooding (pluvial) within the route corridor. The OHL will cross three watercourses. Flood risk from the small Howbeck Gill watercourse is not mapped by SPEA and is not considered to be significant, whilst the SEPA 200 year floodplain of the Beldcraig Burn is largely constrained within the channel and is narrow (~10m wide). The 200 year and 1000 year predicted floodplains of the River Annan are wide and the low-lying area of the western bank	No The OHL wood pole foundations and construction work areas affect a relatively small area (30m x 15m maximum where required) and no concrete will be used. Thus, it is considered unlikely that the proposed development will have impact on surface water run-off, hydrology and flood risk during construction or operation.

		of the river is considered to be at flood risk..	The River Annan has a wide, low-lying floodplain that is predicted to flood in a 200 year event. It is likely that some wood poles will have to be located within the floodplain, as the OHLs will be unable to span the floodplain. Given the small footprint of a wood pole base, it is considered unlikely that this will increase flood levels downstream and the effect is considered to be not significant.

Schedule 3 Selection Criteria
3. Characteristics of the Potential Impact
(a) Magnitude and special extent of the impact (for example geographical area and size of the population likely to be affected)
Will the effect extend over a large geographical area, affecting many people and resulting in social changes, e.g. in demography, traditional lifestyles, employment? No, the Scoop Hill 132kV Connection Project will be approximately 2.4km in length and located in a rural area in the immediate vicinity of an existing substation and electricity transmission infrastructure.
(b) Nature of impact
Is the development located within or close to any other areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which would be significantly affected by the development? No
(c) Transboundary nature of the impact
Will there be any potential for transboundary impact? No
(d) Intensity and complexity of the impact
Is there a risk that environmental standards will be breached? No, all good practice mitigation and pollution prevention measures will be implemented during the construction phase.
(e) Probability of the impact

Is there a high or low probability of a potentially highly significant effect? Low
(f) Expected onset. duration, frequency and reversibility of the impact
Will the effect be permanent, continuous or irreversible? The effects are temporary in nature and the infrastructure will be removed and the land reinstated following the decommissioning of the Scoop Hill Community Wind Farm.
(g)Culmination of the impact with the impact of other existing and/or approved development
Will the Project have cumulative effects, due to its proximity to other existing or planned Projects with similar effects? Yes, the Scoop Hill 132kV Connection Project will be viewed cumulatively with other existing OHL infrastructure in this location, however, the impacts are not considered to be significant.
(h) Possibility of effectively reducing the impact
Will there be any significant adverse effects on any aspect of the environment during the construction and operational phases of the development, has the developer included mitigation measures to avoid, prevent, repair or reduce the potential impact? To ensure effects on the environment are avoided and/or minimised during construction, mitigation and pollution prevention measures will be employed throughout the construction process.

EIA is not required

Appendix B

Proposed Content of the Environmental Report

Chapter 1: Introduction

- Rationale for the Scoop Hill 132kV Connection Project
- Environmental Impact Assessment Screening
- Structure of the Environmental Report
- Planning Policy Content

Chapter 2: Project Description

- Introduction
- Study Area Description
- Overview of the Routeing and Design Process
- Description of the Development
- Construction Process
- Operational Process

Chapters 3 to 7: Landscape and Visual, Ecology, Ornithology, Hydrology, Flood Risk and Water Quality, and Cultural Heritage

- Introduction
- Scope of the Appraisal Study Area
- Policy and Guidance
- Appraisal Methodology
- Baseline Conditions
- Appraisal of Effects
- Mitigation Measures
- Cumulative Effects

Chapter 8: Summary of Effects and Conclusion

Figures

Appendices