Chapter 1

Introduction

SP ENERGY NETWORKS

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Chapter 1
Introduction

1.1 Background

1. This Environmental Impact Assessment (EIA) Report (EIAR) has been prepared by RSK on behalf of SP Energy Networks (SPEN)[1] in relation to proposals to construct a 132 kV grid connection, comprising an overhead line (OHL) and sections of underground cable between Kennoxhead Windfarm (Grid ref: 277165E 624386N) and Coalburn Substation, approximately 17 km north-north-east (Grid ref: 282510E 637337N). Kennoxhead Windfarm is located on land south of the A70, near the village of Glespin on the Douglas Estate while Coalburn Substation is located on land west of the M74 near Coalburn. The Kennoxhead Wind Farm Grid Connection project (hereafter referred to as 'the proposed development') is located within the South Lanarkshire Council Local Authority Area.

2. The location of the proposed development is shown in **Figure 1.1**, and further proposed development details are included below and in **Chapter 4: Project Description**.

3. This EIAR documents the EIA process, which involves the identification, assessment and presentation of likely significant environmental effects (both positive and negative) of the construction and operation of the proposed development. The EIAR has been prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'), as amended. The EIAR has been provided to support an application by SPEN to the Scottish Ministers[2] seeking consent under section 37 of the Electricity Act 1989 ('the Act') for the 132 kV OHL. SPEN is also seeking a direction under section 57 (2) of the Town and Country Planning (Scotland) Act 1997 that planning permission is deemed to be granted for the OHL, the 132kV underground cable and for all associated works (such as temporary access tracks for construction, laydown areas and pulling positions). The information presented in this EIAR will inform Scottish Ministers, consultees and other stakeholders of the environmental effects of undertaking the proposed development, and ultimately in the determination of the applications for section 37 consent and for deemed planning permission.

4. Further details on the requirements for EIA are provided below and in **Chapter 2: Approach to the EIA**.

1.2 The Applicant and the Legal Framework

5. SPEN owns and operates the electricity transmission and distribution networks in central and southern Scotland through its wholly-owned subsidiaries SP Transmission Plc (SPT) and SP Distribution Plc.

1.2.1 SPEN Statutory Duties and Licence Obligations

6. Through a number of statutory and licence duties as detailed below, SPEN is required when formulating relevant proposals[3] 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 the environment and the people who live, work and enjoy recreation within it.

7. As a transmission licence holder for central and southern Scotland, SPEN is required under Section 9(2) of the Act to:

- Develop and maintain an efficient, co-ordinated and economical system of electricity transmission; and
- Facilitate competition in the supply and generation of electricity.

8. In addition, as the owner of transmission assets within its licence area[4] SPEN has certain obligations pursuant to its licence conditions including:

- To plan and develop its transmission system in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) and in so doing take account of National Grid ESO's obligations, as electricity system operator, to co-ordinate and direct the flow of electricity on, to and over the GB transmission system (Licence Condition D3);
- To make its transmission system available for the purpose of conveying, or affecting the flow of, electricity and to ensure that the system is fit for purpose (Licence Condition D2); and
- To make its transmission system available for generators wishing to connect to it and ensure that the system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity (Condition D4A).

9. In response to statutory duties and licence obligations upon it, SPEN is required to ensure that the transmission system is developed and maintained in an economic, coordinated and efficient manner in the interests of existing and future customers.

10. SPEN is therefore legally obliged to provide grid connections for new electricity generating stations. The developer of Kennoxhead Windfarm has sought a grid connection to the wider electricity transmission network.

1.2.2 Consenting Requirements and Schedule 9 Duties

11. Section 37 of the Act requires that, with the exception of certain specific examples, all electric lines exceeding 20 kV will require consent to be granted by the Scottish Ministers. Section 37 consent gives approval to install, and keep installed, an overhead electric line. Section 57(2) of the Town and Country Planning (Scotland) Act 1997 as amended provides that "*On granting or varying a consent under section 36 or 37 of the Electricity Act 1989, the Scottish Ministers may give a direction for planning permission to be deemed to be granted subject to such conditions if any as specified in the direction for… so much of the operation or change of use to which the consent relates as constitutes development and any development ancillary to the operation or change of use to which the consent relates.*" Ancillary development may include underground cable sections, cable sealing end compounds and access tracks. In this case SPEN is seeking deemed planning permission for the OHL itself and for the ancillary development which includes the underground cable sections.

12. While section 37 of the Act stipulates that consent is required from Scottish Ministers for the installation of overhead electric lines, section 38 of and Schedule 9 to the Act impose a further statutory duty on SPEN to take account of the following factors in formulating proposals for relevant proposals such as the proposed development:

"(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 effects which the proposals would have on the natural beauty of the countryside or any such flora, fauna, features, sites, buildings or objects."

[1] SPEN, the trading name for Scottish Power Energy Network Holdings Limited which owns and operates the electricity transmission and distribution networks in central and southern Scotland through its wholly-owned subsidiaries SP Transmission plc (SPT) and SP Distribution plc (SPD). SP Transmission plc is the holder of a transmission licence. The references within this EIAR to SPEN in the context of statutory and licence duties should be read as applying to SP Transmission plc unless the context indicates otherwise.
[2] Consent is obtained from Scottish Ministers although the application is processed by the Scottish Government Energy Consents Unit (ECU).
[3] Relevant proposals include any proposals for the installation of an electric line whether above or below ground
[4] The transmission network in Great Britain is owned, maintained and improved by three transmission owner companies or TOs under the direction of the system operator. The three TOs as follows: SPT in the central and southern Scotland; Scottish Hydro Electric Transmission plc in the north of Scotland and National Grid Electricity Transmission plc in England and Wales. The GB transmission system as a whole is operated by National Grid ESO (NGESO).

13. SPEN has a 'Schedule 9 Statement'[5] which 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 effects of proposals and to identify appropriate mitigation measures.

14. It is SPEN's duty to consider the possible environmental impacts of new electric lines and to do what can 'reasonably be done' to mitigate any adverse impacts. In terms of its statutory duties and licence obligations, SPT must therefore balance technical, cost (economical) and environmental factors. In formulating its proposals for the SPT Apparatus, SPT has complied with its Schedule 9 duties.

15. In accordance with its statutory duties and licence obligations, SPEN is proposing to construct a new connection between Kennoxhead Windfarm and Coalburn Substation comprising a 132 kV OHL and underground cable sections.

1.2.3 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ("EIA Regulations")

16. The EIA Regulations require that, before consent is granted for certain developments, an EIA must be undertaken. The EIA Regulations set out the types of development that are always subject to an EIA (Schedule 1 developments) and other developments which may require an EIA if they exceed certain thresholds (Schedule 2 developments) and are likely to give rise to significant environmental effects. The proposed development currently falls under the following Schedule 2 definition:

> *"(2) an electric line installed above ground -*
>
> *(a) with a voltage of 132 kilovolts or more;*
>
> *(b) in a sensitive area; or*
>
> *(c) the purpose of which installation is to connect the electric line to a generating station the construction or operation of which requires consent under section 36 of the Electricity Act 1989…"*

17. As such, SPEN propose to undertake an EIA of the proposed development to support the application for section 37 consent and deemed planning permission.

1.3 Project Description

18. The proposed development falls within the administrative boundary of South Lanarkshire Council.

19. An overview of the proposed development is shown in **Figure 1.1**, with detailed sections shown in **Figures 4.1a-f**. A detailed project description is provided in **Chapter 4 Project Description**.

20. The proposed route of the OHL and underground cable sections of the proposed development (hereafter referred to as the 'proposed route') exits the Kennoxhead Windfarm substation in a north-easterly direction following a valley moorland landscape located between Kennox Water and an area of commercial forestry. The proposed route then crosses an area of degraded land (from opencast workings). The proposed route passes Carmacoup and crosses the A70, near a small number of residential properties, and continues broadly north-east and enters the Douglas Water valley with the village of Glespin and the A70 to the south. The proposed route continues through the Douglas Valley to the north-west of the village of Douglas. Here the proposed route passes Douglas Substation. Approximately 1 km after Douglas Substation the proposed route changes direction, heading north-west. It continues north-west across a landscape comprising moorland and large former opencast mining areas (including Dalquhandy opencast coal site). It then loops around the south and south-west of the village of Coalburn. To the west of Coalburn the proposed route briefly runs through a transitional landscape between upland and lowland. The final northern section runs through a simple moorland landscape, with signs of former and current opencast mine working visible within the landscape. It runs to the east of Hollandsbush Golf Club and then along Coalburn Road before joining Coalburn Substation. The landform in this location is relatively level/only slightly undulating lowland landscape.

21. The main settlements within the surrounding area include the villages of Coalburn, Douglas, Glespin, Auchloden Garden Village, New Trows and the town of Lesmahagow, which is approximately 900 m north of Coalburn Substation. The proposed route skirts around Coalburn and Glespin. There are no settlements through which the proposed route passes. In addition to the settlements listed above, there are a small number of scattered small groupings and individual properties/farms along the proposed route and within its vicinity. Overall the study area for the proposed route is sparsely populated. The main transportation routes within the area include the following:

- A70, which is to the north east of the Kennoxhead connection point, connecting Edinburgh and Ayr;
- B7078, which runs broadly north to south to the east of the proposed route, connecting Larkhall with Uddington;
- M74, which runs broadly parallel to the B7078, connecting Glasgow with Gretna; and
- There are other minor local roads connecting the settlements, such as Coalburn, with the wider highways network and larger towns outside the study area.

22. There are no designated landscapes of international or national importance within the surrounding area. The Douglas Valley Special Landscape Area and the Douglas Conservation Area, which are of local importance, are within the vicinity of the proposed development. Key nature conservation designations within the surrounding area include Coalburn Moss Special Area of Conservation (SAC), Muirkirk and North Lowther Uplands Special Protection Area (SPA), Coalburn Moss Site of Special Scientific Interest (SSSI), Muirkirk Uplands SSSI, North Lowther Uplands SSSI, Miller's Wood SSSI, North Lowther Hills Important Bird Area (IBA), and Airds Moss and Muirkirk Uplands IBA. There are no non-statutory nature conservation designated sites along the proposed route. There are also two areas of Ancient Semi-Natural Woodland along the proposed route, Windrow Wood and Millers Wood.

23. There are several windfarm developments in the surrounding area as discussed further in **Chapter 5: Planning Policy**.

1.4 Overview of the Proposed Development

24. The proposed development comprises the construction of a new grid connection which includes a 17 km long section of 132 kV (Trident) OHL and approximately 3.5 km of 132 kV underground cable, all of which is located between Kennoxhead Windfarm Substation and Coalburn Substation. The underground cable sections are located at either end of the proposed OHL and will connect in to each substation. The total length of the grid connection is approximately 20.5 km.

25. SPEN commissioned RSK to undertake an assessment of route options for the proposed development. The assessment reviewed economic, technical and environmental constraints to identify a preferred route in accordance with relevant guidelines, including the Holford Rules (defined in **Chapter 2: Approach to EIA**) and the Forestry Commission's (now Scottish Forestry) Design Techniques for Forest Management Planning. Mitigation by design has been achieved through the routeing process, which has ensured that the proposed development provides the optimum balance of avoiding environmental effects while taking account of technical and economic factors.

26. The preferred route was presented to consultees in the Routeing Consultation Document (RCD), published in December 2019 (see **Chapter 3: The Routeing process and Design Strategy**). The purpose of the consultation exercise was to invite comments on the preferred route from statutory and non-statutory consultees and members of the public. The consultation responses to the RCD did not raise any significant concerns in relation to the preferred route and therefore this became the proposed route to be taken forward and presented at scoping in June 2020 (**see Chapter 2: Approach to EIA**).

27. Whilst the consultation responses to the RCD did not raise any significant concerns there were objections raised by individuals and community groups regarding the proposed development. We are comfortable that these issues have been addressed satisfactorily as part of the development process. **Appendix 2.2: Report on Consultation** details the consultation responses received in relation to the RCD and how the comments have been addressed.

[5] https://www.spenergynetworks.co.uk/pages/regulatory_information_library.aspx

28. It is proposed that 169 wood poles would be installed along the length of the proposed OHL route, as shown in **Figures 4.1a-f**. The proposed OHL is above 200 m above ordnance datum (AOD) and would therefore be likely to require construction using H poles (rather than single poles), with a span length of around 100 m and pole heights ranging from 11 m – 18 m with a typical height of 13 m. Photographs of typical wood pole designs to be used and a construction programme are provided in **Chapter 4: Project Description**. All temporary and permanent works associated with the proposed development have been assessed within **Chapters 6** to **11** including undergrounding for crossing existing OHLs, cable sealing end compounds and access tracks.

29. The estimated period of construction of the proposed development is 12 months.

1.5 The EIA and Consenting Process

1.5.1 Legislative Requirement for EIA

30. The EIAR has been provided to support an application by SPEN to the Scottish Ministers[6] seeking section 37 consent under the Act for the proposed 132 kV OHL and deemed planning permission for the proposed 132kV OHL and for all associated works (such as the underground cable sections and temporary access tracks for construction) under section 57 (2) of the Town and Country Planning (Scotland) Act 1997.

31. As stated in **Section 1.2.3**, Schedules 1 and 2 of the EIA Regulations set out developments for which an EIA is or may be required. Schedule 1 developments are defined as projects for which EIA is mandatory. For Schedule 2 developments, EIA is not mandatory but requires professional judgement to determine the likelihood of the development resulting in significant environmental effects. This is dependent on a range of factors such as the nature, scale and location of the proposal.

32. The proposed development includes the carrying out of development which falls within Paragraph 1 of Schedule 2 of the EIA Regulations. In addition, the proposed development is also *"likely to have significant effects on the environment by virtue of factors such as its nature, size or location"*[7]. As a result, the proposed development is EIA development and an EIAR is required to support the application. Further details on the requirements for EIA are set out in **Chapter 2: Approach to the EIA**.

33. This EIAR details the findings of the assessment of the likely significant effects of the proposed development on the environment and describes the adverse and/or beneficial environmental effects and the measures that will be taken to avoid, reduce or offset those effects. The assessment forms part of the wider process of EIA, which is undertaken to ensure that the likely significant effects, both adverse and beneficial, of certain types of development are considered in full by the decision maker prior to the determination of an application for section 37 consent and for deemed planning permission.

1.5.2 Structure of the EIAR

34. This EIAR comprises four volumes detailed in **Table 1.1**.

Volume	Description
Volume 1	Non-Technical Summary (NTS)
Volume 2	EIAR Main Text
Volume 3	Figures and Visualisations
Volume 4	Technical Appendices

Table 1.1: EIAR Volumes

35. **Table 1.2** provides a description of each chapter contained within Volume 2 of the EIAR.

Volume 2 Chapter	Description
Chapter 1 Introduction	(This chapter) provides a brief introduction to the proposed development, the applicant, the legislative requirements for EIA and an outline of the structure of the EIAR.
Chapter 2 Approach to EIA	Describes the EIA process undertaken in accordance with the requirements of the EIA Regulations and the consultation completed to date. Information on topics 'scoped out' of detailed assessment is also provided in this chapter.
Chapter 3 The Routeing Process and Design Strategy	Discusses the design strategy for the wood poles, access tracks and other infrastructure and forestry felling/replanting associated with the proposed development.
Chapter 4 Development Description	Provides details of the development proposals, construction process (including programme), operational maintenance, the decommissioning process and proposed environmental management practices.
Chapter 5 Planning Policy	Sets out the local and national planning policies of relevance to the proposed development including other material considerations.
Chapter 6 Landscape and Visual	Assesses the potential effects of the proposed development on landscape and visual amenity and the implications for designated landscapes.
Chapter 7 Geology, Hydrogeology and Hydrology	Details the potential effects of the proposed development on hydrology, private water supplies, and effects associated with ground conditions including peat and groundwater dependent terrestrial ecosystems (GWDTEs).
Chapter 8 Ecology and Biodiversity	Provides an assessment of the proposed development on protected ecological habitats and species.
Chapter 9 Ornithology	Provides an assessment of the proposed development on avian fauna.
Chapter 10 Archaeology and Cultural Heritage	Details the potential effects of the proposed development on archaeology and the historic environment.
Chapter 11 Forestry	Assesses the potential effects associated with the proposed development on forestry.
Chapter 12 Summary of Likely Significant Effects	Sets out a summary of all the likely significant effects identified in Chapters 6-11.

Table 1.2: EIAR Volume 2 Structure

37. Each assessment chapter has been structured in a way that is most logical for that particular topic area.

38. The EIAR contains supporting figures and appendices as listed in the contents page and presented in Volume 3 and 4 of this EIAR, respectively. A free-standing NTS has also been produced in accordance with the EIA Regulations.

[6] Consent is obtained from Scottish Ministers although the application is processed by the ECU.

[7] Regulation 2(1) of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

1.5.3 Statement of Expertise

39. Regulation 5(5)of the EIA Regulations states that:

> *"In order to ensure the completeness and quality of the EIA report —*
>
> *(a) the developer must ensure that the EIA Report is prepared by competent experts; and*
>
> *(b) the EIA Report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts."*

40. RSK has coordinated the EIA and compiled this EIAR on behalf of SPEN. RSK Group Ltd is a fully integrated, environmental, health, safety and engineering consultancy with over 30 years' experience in the assessment of environmental impacts associated with the development of renewable energy infrastructure.

41. RSK is a founding member of the Institute of Environmental Management and Assessment's (IEMA) EIA Quality Mark scheme, which recognises and accredits organisations that meet the required high-quality standard of EIA on a consistent basis.

42. RSK were responsible for preparing the technical discipline assessments and the production of the EIAR. The relevant expertise and qualifications of the experts involved in the preparation of this EIAR are detailed in **Table 1.3**.

Discipline	Specialist	Qualifications	Years of Experience
EIA Project Management Team			
EIA Project Manager	Robert Beck	BA (Hons), MEnvS, PGDip, PIEMA	17 years
EIA Project Director	Mike Kelly	BSc (Hons)	25 years
EIA Project Support	Adam Paterson Anna Clark	BSc (Hons), MSc, GIEMA BA, MSc, PIEMA	2 years 4 years
EIA Technical Specialists			
Landscape and Visual Amenity	Ross Allan Zach Ford	BSc (Hons), MSc, CMLI BA (Hons), PGDip, MA, CMLI	20 years 10 years
Ecology and Ornithology	Ruth Morton Julia Richards	BSc (Hons), MSc, MCIEEM BSc	15 years 7 years
Hydrology, Hydrogeology, Geology and Soils	Catherine Isherwood	MA, MSci, MSc, PhD, ProfGradIMMM, CGeol	15 years
Archaeology and Cultural Heritage	Joe Somerville	MA, MSc, PIEMA, MCIfA	14 years
Forestry	Roy Dyer, RSK ADAS Wayne Scurrah, RSK ADAS	NDF, DMS, MICFor NDF, Assoc MICFor	52 years 32 years
GIS	Nick Hogben	BA (Hons), PGDip, CGeog	26 years

Table 1.3: EIA Team competency

1.5.4 Availability of the EIAR

43. A copy of the application, with a plan showing the land to which it relates, together with a copy of the EIA Report discussing the Company's proposals in more detail and presenting an analysis of the environmental implications, will be available for download free of charge via the Kennoxhead Wind Farm Grid Connection webpage: https://www.spenergynetworks.co.uk/pages/kennoxhead_wind_farm_grid_connection.aspx and the ECU portal at: www.energyconsents.scot, under application reference ECU00002096.

44. Hard copies of the EIAR will be available to view locally. Electronic (USB) and hard copies of the EIAR may also be obtained by contacting SPEN by email: Kennoxheadgc@spenenergynetworks.co.uk. These copies will be subject to a fee of £400.

1.5.5 Representations

45. Any representations to the application may be submitted via the ECU portal at Scottish Government - ECDU (energyconsents.scot), by email to the Scottish Government ECU mailbox at Econsents_Admin@gov.scot, or by post to the Scottish Government Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation.

1.6 References

Electricity Act 1989. Available [online] at: https://www.legislation.gov.uk/ukpga/1989/29/contents [accessed 19 August 2022]

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The Planning etc. (Scotland) Act 2006. Available [online] at: https://www.legislation.gov.uk/asp/2006/17/contents [accessed 19 August 2022]

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Town and Country (Scotland) Act 1997 (as amended). Available [online] at: https://www.legislation.gov.uk/ukpga/1997/8/contents [accessed 19 August 2022]