

# Chapter 1

## Introduction

### Background

**1.1** This Environmental Impact Assessment (EIA) Report has been prepared by LUC on behalf of SP Energy Networks (SPEN) in relation to proposals to replace the existing 132kV steel tower electricity overhead line (OHL) (hereafter referred to as the 'Existing 132kV OHL') between the existing Erskine substation and existing Devol Moor substation, with a new 132kV wood pole 'trident' OHL (hereafter referred to as the 'New 132kV OHL'). The replacement of the Existing 132kV OHL with the New 132kV OHL is hereafter referred to collectively as the 'EDM Project'. The EDM Project is located within the Inverclyde and Renfrewshire Local Authority areas.

**1.2** The location of the EDM Project is shown in **Figure 1.1**, and further project details are included below and in **Chapter 4: Project Description**.

**1.3** This EIA Report 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 New 132kV OHL and the decommissioning of the Existing 132kV OHL. The EIA Report has been prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'), as amended<sup>1</sup>. The EIA Report has been provided to support an application by SPEN to the Scottish Ministers<sup>2</sup> seeking section 37 consent under the Electricity Act 1989 ('the Act') for the New 132kV OHL. SPEN will also apply for deemed planning permission for the New 132kV OHL, the decommissioning of the Existing 132kV OHL and associated works (such as temporary access tracks for construction and decommissioning) under section 57 (2) of the Town and Country Planning (Scotland) Act 1997. The information presented in this EIA Report will inform Scottish Ministers, consultees and other stakeholders of the environmental effects of undertaking the EDM Project, and ultimately in the determination of the applications for section 37 consent and for deemed planning permission.

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

### The Need for the Project

**1.5** The Existing 132kV OHL between the Erskine and Devol Moor substations secures the supply of electricity to approximately 70,000 customers<sup>3</sup> including many critical establishments such as the new Queen Elizabeth University Hospital and Royal Hospital for Children at Govan Road, Glasgow.

**1.6** As OHL assets get older, the need for maintenance work becomes more critical and more difficult, and the exposure to unplanned electrical faults increases. Asset replacement is therefore essential to provide secure and reliable supplies to existing and future customers, thereby improving resilience in the network. At over 75 years old, the Existing 132kV OHL is coming to the end of its operational life and requires to be replaced to ensure efficient electricity supplies are maintained in accordance with SPEN's statutory and licence duties.

### The Applicant and Legal Framework

**1.7** 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 (SPD). Its transmission network is the backbone of the electricity system in its area carrying large amounts of electricity at high voltages from generating sources such as windfarms and power stations across long distances. The transmission network includes more than 4,000km of overhead lines and more than 360km of underground cables. The electricity is then delivered via the distribution system serving two million customers.

**1.8** Through a number of statutory and licence duties, 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 the environment and the people who live, work and enjoy recreation within it.

**1.9** As a transmission licence holder for central and southern Scotland, SPEN<sup>4</sup> 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.

**1.10** SPEN also has the following obligations pursuant to its licence conditions:

- To make its transmission system available to generators wishing to connect to it and ensure that the system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity.
- 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's obligations as system operator, to co-ordinate and direct the flow of electricity on, to and over the GB transmission system.

**1.11** In response to statutory 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.

**1.12** Section 37 of the Act stipulates that consent is required from Scottish Ministers for the installation of overhead transmission lines. Section 38 and Schedule 9 of the Act imposes 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 effects which the proposals would have on the natural beauty of the countryside or any such flora, fauna, features, sites, buildings or objects."*

**1.13** SPEN has a 'Schedule 9 Statement'<sup>1</sup> 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.

### EDM Project and Surrounding Area

**1.14** The EDM Project falls within the administrative boundary of both Renfrewshire and Inverclyde Councils.

**1.15** An overview of the EDM Project is shown in **Figure 1.1**, with detailed sections shown in **Figures 4.1a-h**.

**1.16** The New 132kV OHL exits the Devol Moor substation in a broadly north-easterly direction paralleling the Existing 132kV OHL to a point south-east of Harelaw Cottage before crossing Devol Road and Auchenbothie Road north-east of Cunston Cottage and north of Welt Kilbride Cottage. The route then runs in a south-easterly direction in parallel to the existing OHL, passing north of Craigmarloch Wood and Leperstone Reservoir and crossing the A761 Port Glasgow Road, Cloak Road and Finlaystone Road north of Kilmacolm to a point to the south-east of Knockmountain. It then routes north-east for a short distance before continuing in a south-easterly direction to the south of Barscube Hill and north of Mid Glen. The route then heads in a broadly eastern direction passing north of Parkglen Wood to a point west of Barmore Hill after which it routes in a north-easterly direction crossing Barochan Road (B789), Old Greenock Road, the railway and Greenock Road (A8) to the west of Cora Campus (Good Shepherd Centre). The route continues in a south-easterly direction broadly parallel to the M8, before crossing the motorway north of Bishopton and heading south-east past Rithcieston Cottage and North Porton Cottage to reach the existing Erskine substation. In total, the proposed route is approximately 17km in length.

**1.17** The Existing 132kV OHL exits the Devol Moor substation in a north-easterly direction to a point east of Harelaw Cottage before routing in a broadly south-easterly direction crossing Devol Road and Auchenbothie Road. It then parallels the route of the New 132kV OHL passing north of Craigmarloch Wood and Leperstone Reservoir and crossing the A761 Port Glasgow Road, Cloak Road

<sup>1</sup> In light of Covid-19, parts of the EIA Regulations were amended on 24<sup>th</sup> April 2020 by The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 to temporarily relax the requirements to place hardcopies of EIA Reports in the public domain during statutory application consultation periods.

<sup>2</sup> Consent is obtained from Scottish Ministers although the application is processed by the Scottish Government Energy Consents Unit (ECU).

<sup>3</sup> The term 'customer' in electricity utility terms means any person who is supplied or requires to be supplied with electricity at any premises or points of supply. It does not therefore take into account multi-occupier domestic premises.

<sup>4</sup> The references to SPEN in the context of statutory and licence duties and the application for section 37 consent should be read as applying to SP Transmission plc.

and Finlaystone Road north of Kilmacolm until south-east of Knockmountain, where it continues in a south-easterly direction passing Mid Glen, Yetston and Haddockston Cottages. At a point to the south of Meiklefield Cottage, the Existing 132kV OHL routes north, passing to the east of Barmore Hill and Barbeg Hill and west of Formakin and before changing to a north-easterly direction north-east of Drums. At a point north of Whitemoss Dam, the route travels in a south-easterly direction passing north of the Ingliston Equestrian Centre and Country Club and crossing Old Greenock Road, Greenock Road (A8), the railway and M8 motorway north of Bishopton. It then heads in a south-easterly direction in parallel to the route of the New 132kV OHL towards the existing Erskine substation. In total, the existing route is approximately 16.5km in length.

**1.18** In addition to the Existing 132kV OHL within the area, a 400kV OHL also exits the Devol Moor substation heading south before routeing both east and west, with the eastern route broadly paralleling the Existing 132kV OHL for a distance of approximately 6km, before continuing south of Bishopton (see **Figure 1.1** where the 400kV OHL is shown on the map but not labelled).

**1.19** The main towns within the surrounding area include Erskine, Bishopton, Langbank, Kilmacolm, Port Glasgow and Greenock. Though both the New 132kV OHL and Existing 132kV OHL skirt around Bishopton, there are no settlements through which the routes pass. Instead the population within the area is dispersed and formed by individual and small clusters of residential properties and farmsteads.

**1.20** The main communication routes within the area, and as mentioned above, include the following:

- The M8, which is located to the north of the 'proposed route' of the New 132kV OHL between Port Glasgow and the north-east of Bishopton, connecting Glasgow to Langbank;
- The A8 (Greenock Road) which passes north-west of Hatton Farm (hereafter following on from the M8 and connecting Langbank and Port Glasgow);
- The M898 located to the east of the 'proposed route' becoming the M8 as it continues west;
- The A761 which passes east of Craigmarnoch wood;
- Various B roads including the B815 and the B789; and
- The railway, running through Bishopton towards Langbank, connecting Glasgow to Wemyss Bay.

**1.21** The key landscape and nature conservation designations within the surrounding area include Clyde Muirshiel Regional Park to the west, Kilpatrick Hills Local Landscape Area to the north, the Inner Clyde Special Protected Area (SPA), Special Site of Scientific Interest (SSSI) and Ramsar to the north, Renfrewshire Heights SSSI to the south-west, Dargavel Burn SSSI and Glen Moss SSSI to the south and Formakin SSSI to the east. Along both the existing and new 132kV OHL routes, there are also a number of locally designated Sites of Importance for Nature Conservation (SINCs). There are also areas of Ancient Woodland along both routes, the largest areas being Craigmarnoch Wood, Parkglen Wood and Barmore Hill.

**1.22** There are a number of wind farm developments in the surrounding area including Inverclyde Wind Farm to the west (eight turbines of 110m to tip - under construction). Other nearby 'committed developments' are discussed in **Chapter 5: Policy Context**.

## Overview of the EDM Project

**1.23** The EDM Project comprises the following:

- The construction of a new 16.95km 132kV single circuit wood pole (Trident) OHL between the existing Erskine and existing Devol Moor substations;
- The decommissioning of the existing 16.5km 132kV double circuit steel tower (Type L4) between the existing Erskine and existing Devol Moor substations following the commissioning of the New 132kV OHL.

**1.24** Whilst SPEN previously undertook routeing and consultation exercises in 2007 and 2010 based on routeing a new double circuit tower line (see **Chapter 3: The Routeing Process and Design Strategy**), further analysis of its proposals against future requirements of the network in the area has concluded that a double circuit replacement on steel towers is no longer required, and that the replacement of the Existing 132kV OHL can be achieved by a 'Trident' 132kV OHL supported on wood poles.

**1.25** As such, single and double (also known as 'H') wood poles are proposed to be used for the New 132kV OHL. There are three types of pole:

- Intermediate: where the pole forms part of a straight-line section;
- Angle: where the OHL needs to change direction. All angle structures will require to be back stayed; and
- Terminal: where the OHL terminates into a substation or on to an underground cable section via a cable sealing end.

**1.26** Photographs of typical wood pole designs to be used are provided in **Chapter 4**.

**1.27** It is proposed that 182 wood poles will be installed along the length of the route, and 62 steel towers will be removed from the Existing 132kV OHL route as shown in **Figures 4.1a-h**. The smaller number of towers is explained by the fact that they are taller than wood poles and have a longer span length. Proposed span lengths between single Trident wood poles across the route will typically be 120m. 'H' poles, which will be required where angle deviations are more than 30°, have a span length of approximately 200m. The standard height of wood poles is 15m. This compares to a 20m height of steel towers with a span of 200m along the Existing 132kV OHL route.

**1.28** The estimated period of construction of the New 132kV OHL is 13 months, and the estimated period for decommissioning the Existing 132kV OHL is 12 months.

## The EIA and Consenting Process

### Legislative Requirement for EIA

**1.29** As noted above, the EDM Project comprises the erection of a New 132kV OHL and the decommissioning of the Existing 132kV OHL and other ancillary development. Section 37 consent is being sought from the Scottish Ministers to install and keep installed the New 132kV OHL. Deemed planning permission is also being sought for the New 132kV OHL as well as the ancillary development works and the decommissioning of the Existing 132kV OHL.

**1.30** 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.

**1.31** The New 132kV OHL component of the EDM Project falls within Schedule 2 of the Regulations as it is development to provide:

- “(2) an electric line installed above ground—
- (a) with a voltage of 132 kilovolts or more;
- (b) in a sensitive area...”

**1.32** In addition, the New 132kV OHL is also “likely to have significant effects on the environment by virtue of factors such as its nature, size or location”<sup>5</sup>. As a result, the EDM Project is EIA development and an EIA requires to be undertaken. Further details on the requirements for EIA are set out in **Chapter 2: Approach to the EIA**.

**1.33** This EIA Report details the findings of the assessment of the likely significant effects of the EDM Project on the environment both in terms of the construction and operation of the New 132kV OHL as well as the likely significant effects of the decommissioning of the Existing 132kV OHL. The assessment forms part of the wider process of EIA, which is undertaken to ensure that the likely significant effects, both positive and negative, 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.

## Structure of the EIA Report

**1.34** This EIA Report comprises two volumes as well as a standalone Non-Technical Summary (NTS), namely:

- Volume 1: Main Text, Figures and Appendices; and
- Volume 2: Landscape and Visual Amenity Visualisations.

<sup>5</sup> Regulation 2(1) of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

1.35 Volume 1 comprises the following chapters.

- **Chapter 1: Introduction** (this chapter) provides a brief introduction to the proposed project, the applicant, the legislative requirements for EIA and an outline of the structure of the EIA Report.
- **Chapter 2: Approach to the EIA:** describes the EIA process undertaken in accordance with the requirements of the 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 new OHL component of the EDM Project.
- **Chapter 4: Project Description** provides details of the development proposals, construction process (including programme), operational maintenance, the decommissioning of the existing OHL and proposed environmental management practices.
- **Chapter 5: Policy Context** sets out the local and national planning policies of relevance to the EDM Project including other material considerations.
- **Chapter 6: Landscape and Visual Amenity** assesses the potential effects of the EDM Project and decommissioning of the Existing 132kV OHL on landscape and visual amenity and the implications for designated landscapes.
- **Chapter 7: Geology, Hydrology, Hydrogeology, Water Resources and Peat** details the potential effects of the EDM Project on hydrology, potential implications for hydrology, private water supplies, and effects associated with ground conditions including peat and groundwater dependent terrestrial ecosystems (GWDTEs).
- **Chapter 8: Ecology and Ornithology** provides an assessment of the EDM Project on protected habitats, protected species and birds.
- **Chapter 9: Cultural Heritage** details the potential effects of the EDM Project on archaeology and historic environment.
- **Chapter 10: Forestry:** assesses the potential effects associated with the EDM Project on forestry during construction and operation.
- **Chapter 11: Summary of Likely Significant Effects** sets out all the likely significant effects identified in **Chapters 6-11**.

1.36 Within each of these environmental topic chapters, the information provided is structured in a consistent way, as far as practicable. **Box 1** provides further information on the structure of each chapter.

**Box 1: Structure of EIA Report Topic Chapters (Chapters 6-10)**

**Introduction:** outlines the content and key objectives of the chapter and provides a statement of competency for the lead chapter author.

**Scope of the Assessment:** identifies the key issues to be considered in the assessment and any issues which are considered unlikely to be significant and which have been scoped out of detailed assessment.

**Assessment Methodology:** outlines the legislation and guidance that the assessment has been undertaken in accordance with, the consultation undertaken with statutory consultees and other organisations, methods used (desk study, surveys etc.), the Study Area, the criteria used to assess the significance of the effects and, (as required by the EIA Regulations) any limitations encountered in undertaking the assessment.

**Existing Conditions:** summarises the baseline situation along both the New 132kV OHL and Existing 132kV OHL routes, including field survey results where appropriate.

**Future Baseline in the Absence of the Development:** provides a description of the predicted environmental conditions and proposed or likely changes likely to occur in the absence of the New 132kV OHL which are of relevance to the topic assessed. This includes natural changes, climate change and the potential for future developments in the Study Area.

**Project Design Modifications:** outlines modifications that were made to the New 132kV OHL design to avoid and reduce effects associated with the topic being assessed, and any mitigation that has been incorporated into the design of the proposals.

**Infrastructure Location Allowance:** details any specific areas where use of the 50m infrastructure location allowance (ILA) is proposed to be utilised in advance of detailed site investigation works taking place, and how this may affect the assessment of effects.

**Embedded Mitigation:** outlines detailed measures for construction and operation working practices that are assumed to be in place during construction and operation of the New 132kV OHL, and decommissioning of the Existing 132kV OHL.

**Assessment of Effects:** details the likely significance of effects (both negative and positive) of the New 132kV OHL during its construction and operational phases, as well as the cumulative effects expected with other existing or proposed developments. Decommissioning effects associated with the Existing 132kV OHL are also assessed in each topic, where relevant. The assessments also consider the effects of forestry felling (where necessary) including felling outside the wayleave corridor to address windthrow. Proposed additional mitigation and resulting residual effects are detailed, where required.

**Interrelationship between Effects:** considers where effects between topics may interact to lead to interrelated effects on a single receptor.

**Summary of Significant Effects:** summarises in tabular format the significant effects, mitigation measures and residual effects of the EDM Project. Where no significant effects are predicted, summary text is provided.

1.37 The assessment section of each specialist chapter is structured in a way that is most logical for that particular topic area and, whilst maintaining the general structure identified above, may include other sections specific to that particular topic where necessary.

1.38 The EIA Report contains supporting appendices as listed in the contents page. A free-standing Non-Technical Summary (NTS) has also been produced in accordance with the EIA Regulations.

**Statement of Expertise**

1.39 Regulation 5 of the EIA Regulations, and relating to the preparation of the EIA Report, states that:

*"In order to ensure the completeness and quality of the environmental statement—*

*(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."*

1.40 LUC has coordinated the EIA and compiled this EIA Report on behalf of SPEN. LUC has secured the Institute of Environmental Management and Assessment (IEMA) Quality Mark for EIA. This provides assurance to third party stakeholders that the EIA is of high quality and that LUC's EIA activities have been independently reviewed by IEMA. LUC prepared the introductory chapters (**Chapters 1 to 5**) in conjunction with SPEN (and National Grid in relation to EMF) and the summary chapter (**Chapter 11**). Whilst LUC has overall responsibility for the EIA Report, sub-consultants have undertaken specialist assessments where necessary as detailed in **Table 1.1** below. A statement of competency for the lead author is provided in **Appendix 1.1**.

**Table 1.1: Responsibilities for EIA Topic Chapters**

EIA Report Topic Chapter	Responsible Organisation
Chapter 6: Landscape and Visual Assessment	LUC
Chapter 7: Geology, Hydrology, Hydrogeology, Water Resources and Peat	Fluid Environmental Consulting
Chapter 8: Ecology and Ornithology	LUC with support from JK Ecology
Chapter 9: Cultural Heritage	LUC
Chapter 10: Forestry	RTS Forestry

**Availability of the EIA Report**

1.41 Electronic copies of the NTS and all other EIA Report documents can be downloaded free of charge via the EDM Project website: [https://www.spenergynetworks.co.uk/pages/erskine\\_devol\\_moor.aspx](https://www.spenergynetworks.co.uk/pages/erskine_devol_moor.aspx).

1.42 Electronic (USB) and hard copies of the EIA Report may be obtained by contacting SPEN at: [devolmoor.projectmanager@sppowersystems.com](mailto:devolmoor.projectmanager@sppowersystems.com).

## Representations

**1.43** Any representations to the application may be submitted via the Energy Consents Unit website at [www.energyconsents.scot/Register.aspx](http://www.energyconsents.scot/Register.aspx); by email to the Scottish Government, Energy Consents Unit mailbox at [representations@gov.scot](mailto:representations@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.

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<sup>i</sup> [https://www.spenetworks.co.uk/pages/regulatory\\_information\\_library.aspx](https://www.spenetworks.co.uk/pages/regulatory_information_library.aspx)