Scottish Power Energy Networks

Kennoxhead to Dalquhandy OHL

Habitats Regulations Assessment, Screening Report

2480372

SEPTEMBER 2022

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RSK GENERAL NOTES

Project No.: 2480372

Title: Kennoxhead to Dalquhandy OHL – Habitats Regulations Assessment Screening Report

Client: Scottish Power Energy Networks

Date: September 2022

Office: Glasgow

Status: Rev 0

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EXECUTIVE SUMMARY

This Habitats Regulations Assessment (HRA) Screening Report has been prepared in relation to a proposed 132kV overhead line grid connection between Kennoxhead wind farm (Grid ref: 277165E 624386N) and Coalburn substation (Grid ref: 282510E 637337N) in South Lanarkshire. It comprises Stage 1 (screening) of the HRA process.

The proposed development lies adjacent to the Coalburn Moss Special Area of Conservation (SAC) and Muirkirk and North Lowther Uplands Special Protection Area (SPA), as well as within 10 km of the Red Moss SAC and the Clyde Valley Woods SAC.

Given the close proximity of Coalburn Moss SAC to the proposed development, the HRA screening exercise concludes that Likely Significant Effects (LSE) cannot be ruled out and further Appropriate Assessment will be required. In addition, LSE on bird species associated with the Muirkirk and North Lowther SPA cannot be ruled out and therefore this site too requires further Appropriate Assessment.

CONTENTS

1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 This report has been produced by RSK Biocensus on behalf of Scottish Power Energy Networks (SPEN) as part of their application for a 132kV overhead line grid connection between Kennoxhead wind farm (Grid ref: 277165E 624386N) and Coalburn substation (Grid ref: 282510E 637337N) in South Lanarkshire, hereafter referred to as the 'proposed development'.

1.1.2 The report comprises Stage 1 of the Habitats Regulations Assessment (HRA) process - the initial screening of the project proposals. The HRA process is aimed at establishing whether the proposed development is likely to have a significant effect on the qualifying features of the Coalburn Moss Special Area of Conservation (SAC), Muirkirk and North Lowther Uplands Special Protection Area (SPA), Red Moss SAC or Clyde Valley Woods SAC. Further details of the HRA process are provided in Section 3 below.

1.1.3 The results of this screening report can then lead to the production of a 'no significant effects' report or identify the need for a 'statement to inform the appropriate assessment'.

1.2 Background

1.2.1 Ecological surveys of the site were undertaken in 2020 which included a detailed phase 1 habitat survey, national vegetation classification (NVC) and groundwater dependent terrestrial ecosystems (GWDTE) surveys. Bird surveys were also undertaken including raptor nest searches, breeding bird surveys and vantage point surveys. The results of these surveys, combined with a desk-based study, have been used to inform this report.

2.0 THE SCHEME

2.1 The site

2.1.1 The proposed route passes through varied habitats including two disused quarries, peat bog, grazed fields and plantation woodland. It also crosses the Douglas Water. There are numerous small waterbodies and burns in the vicinity of the route. Coalburn Moss SAC and Site of Special Scientific Interest (SSSI) lies immediately to the east of the start of the route. Muirkirk North Lowther Uplands SPA lies to the south east and west of the route and is *c.*1.2 km at its closet point to the proposed development. Red Moss lies 5.5 km to the southeast and Clyde Valley Woods *c.*6 km to the north.

2.1.2 The proposed development and proposed route are shown in *Figure 1.*

2.2 Development proposals

2.2.1 The proposed development is a 132kV overhead line grid connection between Kennoxhead wind farm (Grid ref: 277165E 624386N) and Coalburn substation (Grid ref: 282510E 637337N) in South Lanarkshire. The proposed development comprises the construction of a new 17 km 132 kV single circuit wood pole (Trident) OHL and two sections of underground cable, totalling approximately 3.4 km, at each end of the OHL to allow connection, connecting the consented Kennoxhead Wind Farm Substation and the existing Coalburn Substation.

2.2.2 The overhead line will be constructed using a twin wooden pole structure in an H style formation. The overhead line will be *c.*17 km in length and constructed using wooden poles with lines and average height of *c.*13 m, although the height will vary depending on the topography of the land. The spacing between the poles will also vary from between 77 m to 199 m with an average span of *c.*101 m in order to accommodate environmental and technical constraints and changes in topography.

2.2.3 Approximately 0.2 km of underground cable would be installed to connect the OHL with Coalburn Substation. Another underground cable, approximately 3.2 km long would be installed to connect the OHL with Kennoxhead Wind Farm substation. Both cable sections shall be installed in ducts where necessary but direct buried when possible.

2.2.4 A temporary site compound will be set up which will include cabins, a carpark, welfare facilities and stores.

2.2.5 The works are predicted to be completed in 2024.

3.0 HRA PROCESS

3.1.1 Under the Conservation of Habitats and Species Regulations (2017), a network of sites has been designated across Scotland and its marine environment for the purposes of nature conservation. These sites are known as Natura 2000 sites and they form a network of areas designated to conserve natural habitats and species that are rare, endangered, vulnerable or endemic within the European Community. This includes Special Areas of Conservation (SACs) (designated under the Habitats Directive) and SPAs (classified under Directive 2009/147/EC on the Conservation of Wild Birds; the 'Birds Directive').

3.1.2 SACs are designated for the protection of habitats and non-avian animal species of conservation concern. SPAs are designated to protect rare or vulnerable species of bird, as well as all regularly occurring migratory bird species. Scotland's SACs and SPAs are part of a wider European network of such sites and they are consequently referred to as 'European sites'.

3.1.3 In addition to fully designated European sites, the Habitats Regulations also apply to those sites in the earlier stages of the designation process, including: Sites of Community Interest (SCI), Candidate Special Areas of Conservation (cSAC), possible / proposed SACs (pSAC); and potential / proposed SPAs (pSPA). In addition, HRA also needs to include consideration of Wetlands of International Importance (more commonly known as 'Ramsar sites').

3.1.4 The Habitats Regulations require that any plan or project which is not directly connected with or necessary to the conservation of a European site, and which is likely to have a significant effect on such as site, must be subject to an 'appropriate assessment' of the implications for the conservation objectives of that site. This assessment is known as a Habitats Regulations Assessment (HRA). Generally, such plans or projects may only be approved if the 'competent authority' has ascertained, by means of an appropriate assessment, that there will be no adverse effect on the integrity of the European site(s).

3.1.5 The aim of an HRA is to determine, in view of a European site's conservation objectives and qualifying features, whether a project (either alone and/or in combination), would have a significant adverse effect on the site. The four distinct stages of the HRA process are summarised below:

1. **Stage 1: Screening** is the first stage of the process and identifies the likely impacts upon a European site of a project (either alone or in combination). Mitigation cannot be taken into consideration at this stage of the HRA. If the screening exercise concludes that Likely Significant Effects (LSE) cannot be ruled out, then Appropriate Assessment (Stage 2 of the process, see below) must be undertaken. It is important to note that the burden of evidence is to demonstrate, on the basis of objective information, that there will be no significant effect; if the effect may be significant, or is not known, that would trigger the need for an Appropriate Assessment.
2. **Stage 2: Appropriate Assessment** looks at the implications of the effects of the proposals for the site's conservation objectives (alone and in combination). At this stage, it needs to be determined, *beyond reasonable scientific doubt,* whether or not

there will be adverse effects on the integrity of the site. This stage also includes the development of mitigation measures to avoid or reduce any possible impacts.

3. **Stage 3: Assessment of alternative solutions** is the process which examines alternative ways of achieving the objectives of the project that would avoid adverse impacts on the integrity of a European site, should the avoidance or mitigation measures detailed at the Appropriate Assessment stage be insufficient to cancel out adverse effects.
4. **Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain.** An assessment is made as to whether or not the development is necessary for Imperative Reasons of Overriding Public Interest (IROPI). If it is, this stage also involves detailed assessment of the compensatory measures needed to protect and maintain the overall coherence of the Natura 2000 network.

3.2 Conservation Objectives

3.2.1 The conservation objectives for a Natura 2000 site are intended to represent the aims of the Habitats and Birds Directive in relation to that site. Measures taken under the Habitats Directive should be designed to maintain or restore habitats and species of European importance at favourable conservation status (FCS). The conservation objectives of a site set the standards that must be met if the features of the site (habitats and species) are to be at FCS.

3.2.2 The conservation status of natural habitats is defined in Article 1 of the Habitats Directive as follows (European Commission, 2000):

"The sum of influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species.

The conservation status of natural habitats will be taken as favourable when:

- *Its natural range and areas it covers within that range are stable or increasing;*
- *The species structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;*
- *The conservation status of its typical species is favourable as defined in Article 1."*

3.2.3 The conservation status of species is defined in Article 1 of the Habitats Directive as follows (European Commission, 2000):

"The sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population.

The conservation status of species will be taken as favourable when:

- *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;*
- *The natural range of the species is neither being reduced for the foreseeable future;*

- *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis."*

3.2.4 In order to meet the conservation objectives of a site, the integrity of the site must be maintained. Deterioration or disturbance is assessed against the conservation status of species and habitats concerned. The integrity of a site is the coherence of its ecological structure and the functioning of its ecological systems, the features for which the site is designated (habitats and/or species) and the ability of the site to meet its conservation objectives. An adverse effect is therefore defined as something that impacts the site features, either directly or indirectly, and results in disruption or harm to the ecological structure and functioning of the site and/or affects the ability of the site to meet its conservation objectives across all parts of the site.

3.2.5 The HRA will demonstrate whether or not there will be an adverse effect on the integrity of a European site, in light of its conservation objectives. The following sections provide a summary of relevant information that may be used by the competent authority to determine whether a significant adverse effect on a qualifying site is likely, and therefore whether a statement to inform an appropriate assessment is required.

4.0 HRA SCREENING

4.1 General

4.1.1 There are four sites which lie within 10 km of the proposed development. These are Coalburn Moss SPA, Red Moss SAC, Clyde Valley Woods SAC and Muirkirk and North Lowther Uplands SPA. It is considered that Natura 2000 sites further than 10 km are highly unlikely to be directly or indirectly affected by the prosed overhead line. Therefore, 10 km radius is considered a robust and suitable Zone of Influence.

4.1.2 Coalburn Moss SAC lies immediately to the east of the start of the route. Muirkirk North Lowther Uplands SPA lies to the south east and west of the route and is *c.*1.2 km at its closet point to the proposed development. Red Moss lies 5.5 km to the southeast and Clyde Valley Woods *c.*6 km to the north.

4.1.3 The location of the proposed development in relation to the five Natura 2000 sites is shown in *Figure 1*.

4.1.4 Details of the Natura 2000 sites included within this screening assessment are provided below and *Tables 1* – 5 shows the HRA screening of these sites.

4.2 Coalburn Special Area of Conservation

4.2.1 Caolburn SAC is also designated as a site of special scientific interest (SSSI) and is one of the best examples of lowland raised bog in the United Kingdom for its actively-growing Sphagnum-rich vegetation. The raised bog habitat is extensive and subtle variations in nutrient conditions within the bog affects the distribution of the individual species and gives rise to the distinctive undulating, and often colourful, surface pattern characteristic of raised bogs.

4.2.2 **Annex I** habitats that are a primary reason for selection of this site:

- Df 7110 Active raised bogs * Priority feature

4.2.3 Coalburn Moss retains an extensive primary dome, although this is now confined by two abandoned railway lines. The site contains one of the larger tracts of vigorous bog-moss-dominated vegetation in the Central Belt of Scotland, with distinctive wet Sphagnum hollows. Typical bog-mosses include *Sphagnum papillosum* and *S. magellanicum*. Hare's-tail Cottongrass *Eriophorum vaginatum*, Cranberry *Vaccinium oxycoccos* and Reindeer-moss Lichen *Cladonia spp*. are also common. The hollows, rich in *S. cuspidatum*, are occasionally fringed by Great Sundew *Drosera anglica*. Some of the margins of the site also support wetland communities[1].

4.2.4 **Annex I** habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 7120 Degraded raised bogs still capable of natural regeneration

[1] https://sac.jncc.gov.uk/site/UK0019760 accessed May 2021

4.2.5 The conservation objectives for this site are as follows:

1. To ensure that the qualifying features of Coalburn Moss SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

2. To ensure that the integrity of Coalburn Moss SAC is restored by meeting objectives 2a, 2b and 2c:

   2a. Maintain the extent and distribution of the habitat within the site.

   2b. Restore the structure, function and supporting processes of the habitat.

   2c. Restore the distribution and viability of typical species of the habitat.

4.3 Muirkirk and North Lowther Special Protected Area

4.3.1 The Muirkirk and North Lowther Uplands SPA comprises three adjacent upland areas, together with Airds Moss SAC, a low-lying blanket bog. The predominant habitats include semi-natural areas of blanket bog, acid grassland and heath. The boundaries of the SPA are coincident with those of North Lowther Uplands SSSI, Blood Moss and Slot Burn SSSI, Garpel Water SSSI, Ree Burn and Glenbuck Loch SSSI and coincident with those of Muirkirk Uplands SSSI, except for the exclusion of the Upper Heilar and Tarmac forestry plantations on Airds Moss and the exclusion of Blood Moss, south of Dalblair[2].

4.3.2 This SPA qualifies under **Article 4.1** by regularly supporting populations populations of European importance of the **Annex 1** species golden plover (*Pluvialis apricaria*), hen harrier (*Circus cyaneus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*) and short-eared owl (*Asio flammeus*).

4.3.3 The conservation objectives for this site are as follows:

1. To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
2. To ensure for the qualifying species that the following are maintained in the long term:
   - Population of the species as a viable component of the site.
   - Distribution of the species within site.
   - Distribution and extent of habitats supporting the species.
   - Structure, function and supporting processes of habitats supporting the species.
   - No significant disturbance of the species

[2] https://sitelink.nature.scot/site/8616 accessed May 2021

4.4 Red Moss Special Area of Conservation

4.4.1 Red Moss SAC is also designated as a SSSI and comprises the following habitats[3]:

- bogs, marshes, water fringed vegetation, fens; and
- broad-leaved deciduous woodland.

4.4.2 **Annex I** habitats that are a primary reason for selection of this site:

- 7110 Active raised bogs * Priority feature

4.4.3 Red Moss is a small site in the central belt of Scotland comprising three areas of active raised bog together with associated lagg fen communities. The slightly domed areas of mire support typical raised bog vegetation with a good cover of Sphagnum including frequent *S. imbricatum* hummocks and occasional *S. fuscum*. Cranberry (*Vaccinium oxycoccos*) also occurs.

4.4.4 The conservation objectives for this site are as follows:

1. To ensure that the qualifying feature of Red Moss SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.

2. To ensure that the integrity of Red Moss SAC is maintained by meeting objectives 2a, 2b and 2c:

   2a. Maintain the extent and distribution of the habitat within the site.

   2b. Maintain the structure, function and supporting processes of the habitat.

   2c. Maintain the distribution and viability of typical species of the habitat.

4.5 Clyde Valley Woods Special Area of Conservation

4.5.1 Clyde Valley Woods SAC comprises the following habitats[4]:

- inland water bodies (standing water, running water);
- heath, scrub, maquis and garrigue, phygrana;
- dry grassland, steppes;
- broad-leaved deciduous woodland;
- coniferous woodland; and
- mixed woodland.

4.5.2 **Annex I** habitats that are a primary reason for selection of this site:

- FDF 9180 Tilio-Acerion forests of slopes, screes and ravines * Priority feature

[3] https://sac.jncc.gov.uk/site/UK0019764 accessed May 2021
[4] https://sac.jncc.gov.uk/site/UK0013089 accessed May 2021

4.5.3 Clyde Valley Woods in southern Scotland represents the most extensive complex of woodland gorges with Tilio-Acerion forests in Scotland. Although, like all Scottish sites, Clyde Valley Woods is beyond the northern distribution limit of lime *Tilia spp*. it possesses otherwise characteristic features of the Tilio-Acerion. Ground flora typical of the Tilio-Acerion is found in these woods, with some southern species such as Herb-Paris (*Paris quadrifolia*) and Pendulous Sedge (*Carex pendula*) also present[5]. The site has mixed woodland on base-rich soils associated with rocky slopes[6].

4.5.4 The conservation objectives for this site are as follows:

1. To ensure that the qualifying feature of Clyde Valley Woods SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.

2. To ensure that the integrity of Clyde Valley Woods SAC is maintained by meeting objectives 2a, 2b and 2c:

   2a. Maintain the extent and distribution of the habitat within the site.

   2b. Maintain the structure, function and supporting processes of the habitat.

   2c. Maintain the distribution and viability of typical species of the habitat.

[5] https://sac.jncc.gov.uk/site/UK0013089 accessed May 2021

[6] https://sitelink.nature.scot/site/8224 accessed May 2021

Table 1: Screening of the Coalburn Moss SAC

Coalburn Moss SAC		
Qualifying Feature	**FCS/ Condition**	**Potential impact:**
Annex 1 primary qualifying feature - Df 7110 Active raised bogs * Priority feature	Favourable, maintained (assessed 2012)	There will be no direct habitat loss of the SAC, however it lies immediately to the east of the northern section of the proposed overhead line route. As such, there is the potential for polluted runoff from construction works entering watercourses and groundwater, which could result in indirect pollution effects and alteration to the local hydrological regime affecting plant species composition of raised bog habitats within SAC/SSSI.
Annex 1 qualifying feature, but not a priority reason - 7120 Degraded raised bogs still capable of natural regeneration	Unfavourable, recovering (assessed 2012)	
Overall Conclusion - Likely Significant Effects cannot be ruled out, further AA required		

Table 2: Screening of the Muirkirk and North Lowther SPA

Muirkirk and North Lowther SPA		
Qualifying Feature	**FCS/ Condition**	**Potential impact:**
Populations of European importance of hen harrier, golden plover, peregrine falcon, merlin and short-eared owl.	Unknown	This SPA regularly supports breeding populations of European importance of the Annex 1 species hen harrier, short-eared owl, merlin, peregrine falcon and golden plover. Hen harrier, merlin and golden plover have been recorded within the study area for the proposed development and the foraging ranges for these species could overlap with the proposed development. These species could therefore feasibly be affected by the construction and operation phases of the proposed development. The proposed development will have no direct impact on the SPA however, as the proposed route overlaps with the boundary of the SPA, there is the possibility of affecting the qualifying species by injury and incidental mortality through collision with the overhead line once they have been constructed. In addition, there is the potential for the construction works to cause disturbance to qualifying species during the breeding season as well as to hen harrier during the non-breeding season. There is also the potential for temporary displacement of these species from foraging areas outside the SPA during construction works. Finally, there is the potential for cumulative impact on the qualifying species when the proposed development is considered in conjunction with the ongoing wind farm developments in the area.
Overall Conclusion - Likely Significant Effects cannot be ruled out, further AA required		

Table 3: Screening of the Red Moss SAC

Red Moss SAC		
Qualifying Feature	**FCS/ Condition**	**Potential impact:**
7110 Active raised bogs * Priority feature	Unfavourable, recovering (assessed 2015)	Impact unlikely due to lack of obvious impact pathways and distance of site from proposed development.
Overall Conclusion - Likely Significant Effects can be ruled out, no further AA required		

Table 4: Screening of the Clyde Valley Woods SAC

Clyde Valley Woods SAC		
Qualifying Feature	**FCS/ Condition**	**Potential impact:**
FDF 9180 Tilio-Acerion forests of slopes, screes and ravines * Priority feature	Favourable, maintained (2002)	Impact unlikely due to lack of obvious impact pathways and distance of site from proposed development.
Overall Conclusion - Likely Significant Effects can be ruled out, no further AA required		

5.0 CONCLUSIONS

5.1.1 This HRA Screening Report has been prepared as a requirement for an HRA to be undertaken in relation to a proposed overhead line route between Kennoxhead wind farm and Coalburn substation. It comprises Stage 1 (screening) of the HRA process.

5.1.2 The proposed development has the potential to affect both the Coalburn Moss SAC and Muirkirk and North Lowther SPA. Likely significant effects (LSE) on these Natura 2000 sites cannot be ruled out and further Appropriate Assessment (Stage 2) will therefore be required. This screening report concludes however that Stage 2 is not required for any other Natura 2000 sites.

5.1.3 Mitigation measures to address these impacts can readily be envisaged, but they cannot be used to dismiss potential impacts at the screening stage in the HRA assessment process (owing to recent case law holding that the need for mitigation implies the possibility of a significant effect requiring full appropriate assessment).

5.1.4 Appropriate mitigation and safeguard measures will be outlined in the further stages of the Appropriate Assessment process.

6.0 FIGURES

260000 262000 264000 266000 268000 270000 272000 274000 276000 278000 280000 282000 284000 286000 288000 290000 292000 294000 296000 298000 300000

648000 646000 644000 642000 640000 638000 636000 634000 632000 630000 628000 626000 624000 622000 620000 618000 616000 614000

Clyde Valley Woods SAC

Coalburn Moss SAC

Muirkirk and North Lowther Uplands SPA

Red Moss SAC

Braidwood
Crossford
Udstonhead
Ardochrig
Stonehouse
B7078
Strathaven
Carstairs
Carnwath
Kaimend
Carstairs Junction
Cleghorn
Auchenheath
Kirkmuirhill
A72
Lanark
Sandford
B7018
Pettinain
Libberton
Caldermill
B7086
Boghead
Hynford Bridge
Corehouse
Stobieside
Lesmahagow
Quothquan
Drumclog
B743
Sandilands
Carmichael
Thankerton
Auchlochan
Dungavel
South Lanarkshire
Douglas Water
Rigside
Symington
Braehead
Coalburn
B7078
B7055
Wiston
Newton
Douglas West
Douglas
Lamington
Glenbuck
Parish Holm
Glespin
Roberton
Netherwood
Garpel
Muirkirk
Smallburn
Nether Wellwood
B7078
A702
Crawfordjohn
Abington
Cronberry
Crawford
B740
Dalblair
A74(M)
Fingland
Corsebank
Elvanfoot
B797
Leadhills
Kirkland
Carco
Glenochar
New Cumnock
B7076
A76

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Hybrid Reference Layer: Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS
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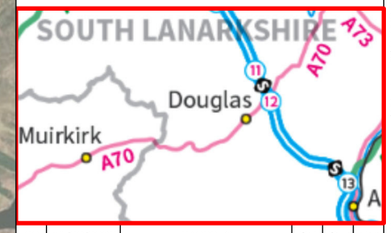
Legend:

- 50m Working Area Buffer
- 10km Buffer

Designated Sites

- Special Areas of Conservation (SAC)
- Special Protection Area (SPA)



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Kennoxhead

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EXPERTS IN ECOLOGY

TITLE: Figure 1:
International Statutory
Designated Sites

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Metres
SCALE: 1:125,000 @ A3

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