



Scottish Power Energy Networks

Kennoxhead to Dalquhandy OHL

Statement to Inform Appropriate Assessment

2480372

SEPTEMBER 2022

RSK
biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

Project No.: 2480372

Title: Kennoxhead to Dalquhandy OHL – Statement to Inform Appropriate Assessment

Client: Scottish Power Energy Networks

Date: September 2022

Office: Glasgow

Status: Rev 00

Author	<u>Ruth Morton</u>	Technical and Quality reviewer	<u>Mark Lang</u>
Date:	<u>September 2022</u>	Date:	<u>September 2022</u>
Project manager	<u>Ruth Morton</u>		
Date:	<u>September 2022</u>		

RSK Biocensus (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK Biocensus for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

Switchboard: +44 (0)330 223 1074 Company contact: Enquiries@biocensus.co.uk

EXECUTIVE SUMMARY

This Habitats Regulations Assessment (HRA) Statement to Inform Appropriate Assessment 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 2 of the HRA process and follows Stage 1 (screening) which identified that Likely Significant Effects (LSE) on two internationally designated sites could not be ruled out.

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. Stage 1 (screening) identified that Likely Significant Effects (LSE) on Coalburn Moss SAC and Muirkirk and North Lowther Uplands SPA could not be ruled out.

Providing that the mitigation measures set out in this document are implemented, it is not expected that the Proposed Development will have an adverse impact on the integrity of the internationally designated sites or qualifying species of Coalburn SAC and Muirkirk and North Lowther Uplands SPA.

CONTENTS

1.0 INTRODUCTION	1
1.1 Purpose of this report	1
1.2 Background	1
2.0 THE SCHEME	2
2.1 The site	2
2.2 Development proposals	2
3.0 PROTECTED SITES POTENTIALLY AFFECTED BY THE PROPOSALS	4
3.1 General	4
3.2 Coalburn Special Area of Conservation	4
3.3 Muirkirk and North Lowther Special Protected Area	5
4.0 POTENTIAL IMPACTS ON DESIGNATED SITES	6
4.1 Potential Impacts	6
4.2 Coalburn Moss SAC	6
4.3 Muirkirk and North Lowther Special Protected Area	6
5.0 MITIGATION AND DISCUSSION	7
5.1 Coalburn Moss SAC	7
5.2 Muirkirk and North Lowther Special Protected Area	7
6.0 CONCLUSION	10
6.1 General	10
6.2 Cumulative	10
7.0 FIGURES	11
8.0 REFERENCES	12
APPENDIX A – SUMMARY STATEMENT TO INFORM APPROPRIATE ASSESSMENT	13
APPENDIX B – NO SIGNIFICANT EFFECTS REPORT	19

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 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) and Muirkirk and North Lowther Uplands Special Protection Area (SPA).
- 1.1.3 This report comprises Stage 2 of the Habitats Regulations Assessment (HRA) process – Statement to Inform Appropriate Assessment. This report has been produced following the production of a Stage 1 (screening) report which identified potential impacts on the SAC and SPA.
- 1.1.4 The HRA process was outlined in the Stage 1 (screening) report (RSK, 2021).

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. The latter included surveying 250 m either side of the proposed route.
- 1.2.2 Bird surveys were also undertaken during 2020 and 2021 including raptor nest searches, black grouse (*Lyrurus tetrix*) surveys, breeding bird surveys and vantage point surveys.
- 1.2.3 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.
- 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. The preparation of the land for temporary areas will include some site clearance, minor earthworks to level the site, drainage works for the carpark and installation of services.
- 2.2.5 Mitigation measures required during construction will be detailed in a construction phase plan. In addition, method statements for each construction activity will be prepared prior to commencement of works. A breeding bird protection plan, ecological management and mitigation plan, method statement for temporary peat storage and removal, ground water dependent terrestrial ecosystems strategies and an environmental and quality management plan will all also be produced.
- 2.2.6 To allow access to the site, temporary roads will be required. This will comprise trackway/terrafirma panels or stone roads laid on top of geomembranes. Bog mats and

temporary track mats will be used to cross areas of soft-ground where existing access tracks are not available.

2.2.7 The works are predicted to be completed in 2024.

3.0 PROTECTED SITES POTENTIALLY AFFECTED BY THE PROPOSALS

3.1 General

- 3.1.1 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.
- 3.1.2 Red Moss SAC and Clyde Valley Woods SAC were both screened out during Stage 1 of the HRA process, as such, only Coalburn Moss SAC and Muirkirk and North Lowther Uplands SPA are discussed further in this report.
- 3.1.3 Coalburn Moss SAC lies immediately to the east of the start of the route. Muirkirk North Lowther Uplands SPA lies to the southeast and west of the route and is c.1.2 km at its closet point to the proposed development.
- 3.1.4 The location of the proposed development in relation to the two Natura 2000 sites is shown in *Figure 1*.
- 3.1.5 Details of the Natura 2000 sites included within this report are provided below.

3.2 Coalburn Special Area of Conservation

- 3.2.1 Coalburn 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.
- 3.2.2 **Annex I** habitats that are a primary reason for selection of this site:
- Df 7110 Active raised bogs * Priority feature
- 3.2.3 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 communities¹.
- 3.2.4 **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
- 3.2.5 The conservation objectives for this site are as follows:

¹ <https://sac.incc.gov.uk/site/UK0019760> accessed May 2021

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.

3.3 Muirkirk and North Lowther Special Protected Area

- 3.3.1 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 Dalblair².
- 3.3.2 This SPA qualifies under **Article 4.1** by regularly supporting 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*).
- 3.3.3 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

4.0 POTENTIAL IMPACTS ON DESIGNATED SITES

4.1 Potential Impacts

- 4.1.1 The HRA screening exercise identified the following potential impacts on the SAC from the proposed development. As discussed in the screening report (RSK, 2021) other than the impacts listed below, no other significant impacts are anticipated.

4.2 Coalburn Moss SAC

- 4.2.1 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.
- 4.2.2 No effects on this SAC are predicted once the overhead line is in operation.

4.3 Muirkirk and North Lowther Special Protected Area

- 4.3.1 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.
- 4.3.2 The proposed development will have no direct impact on the SPA however, as the proposed route is in close proximity to 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 it has been constructed.
- 4.3.3 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.
- 4.3.4 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.

5.0 MITIGATION AND DISCUSSION

5.1 Coalburn Moss SAC

- 5.1.1 With embedded mitigation measures in place any potential effect on the SAC is likely to be of low magnitude.
- 5.1.2 This will be achieved by the production of a comprehensive construction environmental management plan detailing how accidental spillages, pollution and run-off will be prevented. Mitigation measures will include the following:
- Diesel and other materials will be stored in bunded containers and spill kilts and spill remediation procedures will be developed.
 - Pole storage will be in a bunded area away from watercourses and will consider the control of any preservative used on the wooden poles in regard to potential contamination. This is likely to be achieved by storing the poles in a hardstanding area with a non-permeable membrane.
- 5.1.3 As a means of monitoring, water quality monitoring for the watercourse at the north west side of Coalburn Moss will be developed and undertaken pre and post construction to ensure there has been no deterioration in water quality. If a negative effect is indicated remedial mitigation measures will be developed.

5.2 Muirkirk and North Lowther Special Protected Area

- 5.2.1 The baseline surveys undertaken to inform the Proposed Development, as well as other developments in the wider area such as the Kennoxhead Wind Farm Extension, recorded a low level of activity associated with those species of birds that are qualifying features of the Muirkirk and North Lowther Uplands SPA.

Habitat Loss

- 5.2.2 The designated site itself has been avoided during the routing of the Proposed Development, so there will be no habitat loss within the designated site.
- 5.2.3 Hen harrier, merlin, short-eared owl and golden plover are ground-nesting species, favoring open moorland habitat. The extent of the habitat losses within suitable habitat for SPA species along the proposed alignment would be minor (to accommodate the poles themselves) and not sufficient to result in a discernible reduction in the breeding status or productivity of the bird populations associated with the SPA. All other habitat loss will be temporary.

Displacement and Mortality

- 5.2.4 Although it is possible that small numbers of foraging birds may be displaced due to construction of the Proposed Development, the effects would be temporary and alternative foraging and breeding habitat would be available in the surrounding area. It is likely that any displaced birds would relocate to other suitable habitat nearby, without resulting in any discernible reduction in the status or productivity of the bird populations.

- 5.2.5 Pre-construction surveys would be undertaken as part of the embedded mitigation for the Proposed Development to identify any nesting bird constraints, including those species that form qualifying features of the SPA.
- 5.2.6 Mortality of birds and the destruction of active birds' nests during construction works would be avoided through the implementation of standard best practice construction methods and embedded mitigation that is included as part of the Proposed Development. These measures will be outlined further in the Ecological Management and Mitigation Plan and the Breeding Bird Protection Plan.
- 5.2.7 Measures will be outlined within the Ecological Management and Mitigation Plan and a Breeding Bird Protection Plan to safeguard any nest sites of birds. Furthermore, the Ecological Management and Mitigation Plan and Breeding Bird Protection Plan would be frequently updated by the Environmental Clerk of Works (ECoW) to ensure any disturbance impacts on birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are avoided.
- 5.2.8 In order to reduce the impact on the assemblage of breeding birds present in the vicinity of the Proposed Development (including those associated with the SPA), any vegetation removal that is necessary to facilitate construction would be undertaken during the bird non-breeding season (September-February), where possible. Should this not be possible for any reason, such as due to inclement weather conditions, for example, then inspections of the vegetation will be undertaken within 24 hours prior to its removal, to first confirm the absence of nesting birds.

Collision Risk

- 5.2.9 Any birds flying over the OHL, particularly large raptors, geese and swans, are at potential risk of collision with the conductor and earth wires. Collision with the OHL could result in the mortality of the bird and consequently impact on the population of the species, and therefore it's conservation status.
- 5.2.10 The study area has been found to be used infrequently by those bird species that are associated with the Muirkirk and North Lowther Uplands SPA, with only a single merlin flight being recorded at potential collision-risk height within the Site. Merlin are agile flyers and are not a species that would be likely to be at significant risk of collision with the OHL.
- 5.2.11 Hen harriers have been found to be most at risk of collision with structures when involved in courtship display flights (Hardy et al., 2013). Nesting hen harrier have not been recorded within the study area and it is unlikely that any pairs present within the wider area would partake in display flights in the vicinity of the proposed OHL. All hen harrier flights recorded within the study area were of birds hunting and no display flights were observed. Due to the low frequency of flights within the study area, the risk of collision-related mortality would be low and consequently not significant for hen harrier.
- 5.2.12 Deflectors, also known as line markers, have been shown to reduce bird collisions by 78% (Barrientos et al., 2011). As a precaution, it is proposed that deflectors would be installed on the earth wires between poles 1 and 28, between poles 50 and 60, between poles 83 and 103, and between poles 110 and 120. These areas are associated with higher flight activity of birds at risk of collision with OHLs due to the habitats present, including woodland edge, upland habitats, wetlands and waterbodies. The exact

positioning of the deflectors would be confirmed during the development of the detailed design for the Proposed Development.

- 5.2.13 Deflectors used in these locations would be expected to reduce any potential bird collisions by making birds aware of the presence of the overhead lines, this is especially prudent where birds may be flying between areas of the SPA on either side of the OHL.

Maintenance Works

- 5.2.14 In addition to the above, any maintenance required on the OHL and underground cable will be timed to take place outside of sensitive periods such as the bird breeding season. Where this is not possible, surveys will be undertaken to first identify any bird constraints and confirm any resultant mitigation requirements. Such measures will be outlined in the Ecological Management and Mitigation Plan and Breeding Bird Protection Plan.

6.0 CONCLUSION

6.1 General

6.1.1 The findings of the screening assessment show that the Proposed Development could in principle have an adverse effect on qualifying features of both the Coalburn Moss SAC and Muirkirk and North Lowther Uplands SPA. However, given the embedded mitigation for the construction activities as well as specific mitigation in relation to birds, it is not considered likely that there will be an adverse effect on either designated site or the qualifying species.

6.2 Cumulative

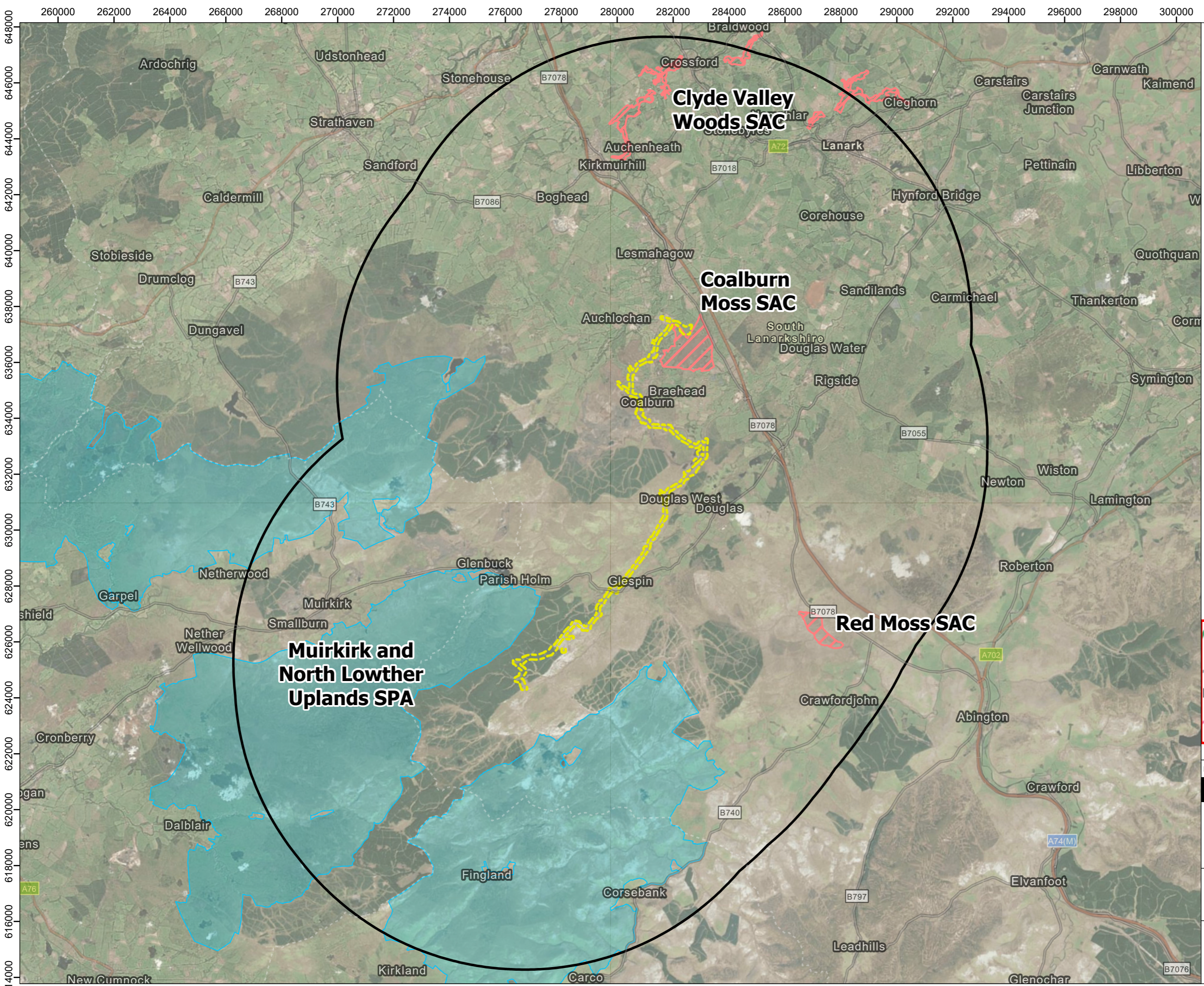
6.2.1 There are several wind farms being constructed or going through the planning process including several within the Proposed Development study area. These include the Dalquhandy to Coalburn OHL, as well as the following wind farms:

- Kennoxhead and extension;
- Hagshawhill and extension;
- Douglas West;
- Poniel; and
- Dalquhandy;

6.2.2 The proposed development is not expected to have any cumulative effects on the SAC in regard to these additional developments.

6.2.3 In relation to the SPA, the Proposed Development is not expected to have any cumulative effects associated with habitat loss or disturbance in regard to these additional developments, given the small land uptake of the wooden poles and temporary nature of the disturbance during the construction works. The likely effects of collision-related mortality have been assessed as being negligible and would not be sufficient whereby there would be likely significant cumulative effects associated with other developments.

7.0 FIGURES



Legend:

- 50m Working Area Buffer
- 10km Buffer

Designated Sites

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



Rev	Date	Description	Drn	Chk	App
00	15/09/2022	2480372	SP	SW	RM

Kennoxhead



TITLE: Figure 1:
International Statutory
Designated Sites

0 1,000 2,000 3,000
Metres
SCALE: 1:125,000 @ A3

REV 00

Contains Ordnance Survey data © Crown copyright and database right 2022
World Imagery (Clarity): Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Hybrid Reference Layer: Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS
OS Open Rasters: Contains OS data © Crown Copyright and database right 2022

8.0 REFERENCES

Barrientos R., Alonso J.C., Ponce C. and Palacin C. (2011). Meta-analysis of the Effectiveness of Marked Wire in Reducing Avian Collisions with Power Lines.

RSK Biocensus (2022) Kennoxhead HRA Screening Report, unpublished.

APPENDIX A – SUMMARY STATEMENT TO INFORM APPROPRIATE ASSESSMENT

Project Name	Kennoxhead to Dalquhandy OHL	
Natura 2000 Site under Consideration	Coalburn Moss SAC	
Date	Author	
22/06/2021	Ruth Morton	
<i>Brief description of the project or plan</i>	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 using wooden poles.	
<i>Brief description of the Natura 2000 site</i>	<p>Coalburn Moss SAC</p> <p>Coalburn 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.</p> <p>This SAC is designated for having the following qualifying interests: active raised bogs and degraded raised bogs still capable of natural regeneration. The site lies immediately to the east of the northern section of the proposed route.</p>	
Assessment criteria		
<i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</i>	<p>There is the potential for polluted runoff from works entering watercourses and groundwater, ground excavations. This could have an adverse effect on the qualifying features of the SACs.</p> <p>Indirect pollution effects and alteration to local hydrological regime affecting plant species composition of raised bog habitats. within SAC/SSSI.</p>	
<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p>		

<i>size and scale;</i>	The overhead line is over c.16 km in length.
<i>land-take</i>	No impact on any land within the SAC boundaries. Small land-take from outside the SAC as footprint of the wooden poles is minimal.
<i>distance from the Natura 2000 site or key features of the site</i>	Immediately adjacent to the Proposed Development.
<i>resource requirements (water abstraction etc.)</i>	No resource requirements are needed from within the SAC.
<i>emissions (disposal to land, water or air)</i>	None.
<i>excavation requirements</i>	None.
<i>transportation requirements</i>	No access across the SAC.
<i>duration of construction, operation, decommissioning, etc</i>	Works will commence following approval and are anticipated to be completed in 2024. A 12 month programme of works is anticipated. Operation will be ongoing.
<i>Other</i>	-
Describe any likely changes to the site arising as a result of:	
<i>reduction of habitat area:</i>	None.
<i>disturbance to key species</i>	N/A
<i>habitat or species fragmentation</i>	None
<i>reduction in species density</i>	None
<i>changes in key indicators of conservation value (water quality etc.)</i>	The avoidance of water pollution will be implemented by control measures for the site as well as good practice measures during construction.
<i>climate change</i>	None
Describe any likely impacts on the Natura 2000 site as a whole in terms of:	
<i>interference with the key relationships that define the structure of the site</i>	None

<i>interference with key relationships that define the function of the site</i>	None
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
<i>Loss</i>	No impacts anticipated
<i>fragmentation</i>	No impacts anticipated
<i>disruption</i>	No impacts anticipated
<i>disturbance</i>	No impacts anticipated
<i>change to key elements of the site (e.g. water quality etc.).</i>	No impacts anticipated providing the control measures are adhered to.
<i>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</i>	The mitigation detailed within this document minimises the impacts on the designated site.

<i>Project Name</i>	Kennoxhead to Dalquhandy OHL
<i>Natura 2000 Site under Consideration</i>	Muirkirk and North Lowther SPA
<i>Date</i>	<i>Author</i>
<i>22/06/2021</i>	Ruth Morton
<i>Brief description of the project or plan</i>	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 using wooden poles.

<p><i>Brief description of the Natura 2000 site</i></p>	<p>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 Dalblair³.</p> <p>This SPA qualifies under Article 4.1 by regularly supporting populations of European importance of the Annex 1 species golden plover (<i>Pluvialis apricaria</i>), hen harrier (<i>Circus cyaneus</i>), merlin (<i>Falco columbarius</i>), peregrine (<i>Falco peregrinus</i>) and short-eared owl (<i>Asio flammeus</i>).</p>
Assessment criteria	
<p><i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</i></p>	<p>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.</p> <p>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.</p>
<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p>	
<p><i>size and scale;</i></p>	<p>The overhead line is over c.16 km in length.</p>
<p><i>land-take</i></p>	<p>No impact on any land within the SPA boundaries. Small land-take from outside the SPA as footprint of the wooden poles is minimal.</p>
<p><i>distance from the Natura 2000 site or key features of the site</i></p>	<p>c.1.26 km</p>

³ <https://sitelink.nature.scot/site/8616> accessed May 2021

<i>resource requirements (water abstraction etc.)</i>	No resource requirements are needed from within the SPA.
<i>emissions (disposal to land, water or air)</i>	None.
<i>excavation requirements</i>	None.
<i>transportation requirements</i>	No access across the SPA.
<i>duration of construction, operation, decommissioning, etc</i>	Works will commence following approval and are anticipated to be completed in 2024. A 12 month programme of works is anticipated. Operation will be ongoing.
<i>Other</i>	-
Describe any likely changes to the site arising as a result of:	
<i>reduction of habitat area:</i>	None.
<i>disturbance to key species</i>	Unlikely as pre-construction checks will be undertaken, and suitable mitigation put in place including timing of works.
<i>habitat or species fragmentation</i>	None
<i>reduction in species density</i>	None
<i>changes in key indicators of conservation value (water quality etc.)</i>	None
<i>climate change</i>	None
Describe any likely impacts on the Natura 2000 site as a whole in terms of:	
<i>interference with the key relationships that define the structure of the site</i>	None
<i>interference with key relationships that define the function of the site</i>	None
Provide indicators of significance as a result of the identification of effects set out above in terms of:	

<i>Loss</i>	No impacts anticipated
<i>fragmentation</i>	No impacts anticipated
<i>disruption</i>	No impacts anticipated
<i>disturbance</i>	No impacts anticipated as mitigation measures will be put in place including timing of works following pre-construction surveys.
<i>change to key elements of the site (e.g. water quality etc.).</i>	No impacts anticipated providing the control measures are adhered to.
<i>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</i>	The mitigation detailed within this document minimises the impacts on the designated site and qualifying species.

APPENDIX B – NO SIGNIFICANT EFFECTS REPORT

Project Name	Kennoxhead to Dalquhandy OHL	
Natura 2000 Site under Consideration	Coalburn Moss SAC	
Date	Author	
22/06/2021	Ruth Morton	
<i>Name and location of European Site</i>	Coalburn Moss SAC, Coalburn, Soyh Lanarkshire	
<i>Description of the project</i>	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 using wooden poles.	
<i>Is the project directly connected with or necessary to the management of the site (provide details)?</i>	No	
<i>Are there other projects or plans that together with the project being assessed could affect the site (provide details)?</i>	No – there are various other developments in close proximity but a cumulative effect on the SAC is considered unlikely.	
The Assessment of Significance of Effects		
<i>Describe how the project (alone or in combination) is likely to affect the European Site</i>	There is the potential for polluted runoff from works entering watercourses and groundwater, ground excavations. This could have an adverse effect on the qualifying features of the SACs. Indirect pollution effects and alteration to local hydrological regime affecting plant species composition of raised bog habitats within SAC/SSSI.	
<i>Explain why these effects are not considered significant.</i>	Construction works will be undertaken under strict control measures to avoid runoff etc. This will be detailed within a construction management plan	
<i>List of agencies consulted: provide contact name and telephone or e-mail address.</i>	NatureScot	
<i>Response to Consultation</i>	SNH requested that a HRA was required prior to determining the application.	
Data Collected to carry out the Assessment		

<i>Who carried out the assessment?</i>	<i>Sources of data</i>	<i>Level of assessment completed</i>	<i>Where can the full results of the assessment be accessed and reviewed?</i>
Ruth Morton	https://sitelink.nature.scot/site/8225	Appropriate Assessment	Screening report and within this document

Project Name	Kennoxhead to Dalquhandy OHL		
Natura 2000 Site under Consideration	Muirkirk and North Lowther SPA		
Date	Author		
22/06/2021	Ruth Morton		
<i>Name and location of European Site</i>	Muirkirk and North Lowther SPA, South Lanarkshire		
<i>Description of the project</i>	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 using wooden poles.		
<i>Is the project directly connected with or necessary to the management of the site (provide details)?</i>	No		
<i>Are there other projects or plans that together with the project being assessed could affect the site (provide details)?</i>	No – there are various other developments in close proximity but a cumulative effect on the SPA and it's qualifying species is considered unlikely.		
The Assessment of Significance of Effects			
<i>Describe how the project (alone or in combination) is likely to affect the European Site</i>	<p>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.</p> <p>In addition, there is the potential for the construction works to cause disturbance to</p>		

	<p>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.</p>
<p><i>Explain why these effects are not considered significant.</i></p>	<p>The extent of the habitat losses within suitable habitat for SPA species along the proposed alignment would be minor (to accommodate the poles themselves) and not sufficient to result in a discernible reduction in the breeding status or productivity of the bird populations associated with the SPA.</p> <p>The effects in regard to disturbance would be temporary and alternative foraging and breeding habitat would be available in the surrounding area. It is likely that any displaced birds would relocate to other suitable habitat nearby, without resulting in any discernible reduction in the status or productivity of the bird populations.</p> <p>Pre-construction surveys would be undertaken to identify any nesting bird constraints, including those species that form qualifying features of the SPA.</p> <p>Mortality of birds and the destruction of active birds' nests during construction works would be avoided through the implementation of standard best practice construction methods and embedded mitigation that is included as part of the Proposed Development.</p> <p>Measures will be outlined within the Ecological Management and Mitigation Plan and a Breeding Bird Protection Plan to safeguard any nest sites of birds. Furthermore, these would be frequently updated by the Environmental Clerk of Works (ECoW) to ensure any disturbance impacts on birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are avoided.</p> <p>In order to reduce the impact on the assemblage of breeding birds present in the vicinity (including those associated with the SPA), any vegetation removal that is necessary to facilitate construction would be undertaken during the bird non-breeding season (September-February), where possible.</p> <p>The study area has been found to be used infrequently by those bird species that are associated with the Muirkirk and North Lowther Uplands SPA, with only a single merlin flight being recorded at potential collision-risk height within the Site. Merlin are agile flyers and are not a species that would be likely to be at significant risk of collision with the OHL.</p> <p>Hen harriers have been found to be most at risk of collision with structures when involved</p>

		<p>in courtship display flights (Hardy et al., 2013). Nesting hen harrier have not been recorded within the study area and it is unlikely that any pairs present within the wider area would partake in display flights in the vicinity of the proposed OHL. All hen harrier flights recorded within the study area were of birds hunting and no display flights were observed. Due to the low frequency of flights within the study area, the risk of collision-related mortality would be low and consequently not significant for hen harrier.</p> <p>As a precaution, it is proposed that deflectors would be installed on the earth wires between poles 1 and 28, between poles 83 and 103, and between poles 110 and 120. The exact positioning of the deflectors would be confirmed during the development of the detailed design for the Proposed Development.</p>	
<i>List of agencies consulted: provide contact name and telephone or e-mail address.</i>		NatureScot	
<i>Response to Consultation</i>		NatureScot requested that a HRA was required prior to determining the application.	
Data Collected to carry out the Assessment			
<i>Who carried out the assessment?</i>	<i>Sources of data</i>	<i>Level of assessment completed</i>	<i>Where can the full results of the assessment be accessed and reviewed?</i>
Ruth Morton	https://sitelink.nature.scot/site/8616	Appropriate Assessment	Screening report and within this document