Scottish & Southern Electricity Networks

TRANSMISSION

Netherton Hub 400 kV OHL Connection to New Deer and Peterhead: Tie-In

Environmental Appraisal Report

Volume 3 Appendix 8.1: Habitats Regulations Appraisal Stage 1 and 2

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TRANSMISSION

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1. INTRODUCTION

1.1 Background

1.1.1 This Habitats Regulations Appraisal (HRA) has been prepared by WSP UK Ltd. on behalf of Scottish Hydro Electric Transmission plc (the Applicant) who, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands.

1.1.2 This HRA accompanies the Applicant's application for consent under section 37 of the Electricity Act 1989 to construct and install a permanent diversion (the 'Tie-In') of the existing New Deer to Peterhead 400 kV Overhead Line (OHL) (hereafter referred to as 'the Proposed Development') into a new 400 kV Alternating Current (AC) substation, proposed separately as part of the consented Netherton Hub, which is currently being constructed. The Proposed Development is described in full in **Section 2** of this document.

1.2 Site Location

1.2.1 Situated within the Aberdeenshire Council local authority area, the Proposed Development is located within a rural area west of the settlement of Peterhead, and passes through the locality of Nether Kinmundy.

1.2.2 The midpoint of the 'In' leg of the Proposed Development has the National Grid Reference NK 04044 44606 and, at its furthest point from the Netherton Hub, is approximately 7.5 km south west of Peterhead. The midpoint of the 'Out' leg has the National Grid Reference NK 06867 43865, and is approximately 3.9 km south west of Peterhead. South of the proposed OHL lies the existing OHL which passes through Nether Kinmundy from New Deer in a south east direction toward Peterhead. the 'Site' of the Proposed Development comprises the proposed location of the new OHL, the existing OHL and towers to be dismantled, and the Limit of Deviation (LoD). The LoD comprises an area which defines the practical limits within which micro-siting of the overhead line infrastructure can be sited and construction can be undertaken within the terms of the Section 37 consent. It is further defined in **Chapter 2: Description of the Proposed Development (Volume 1)** of the **Environmental Appraisal Report**.

1.3 Site Context

1.3.1 Both the 'In' and 'Out' legs of the proposed OHL alignment are located in a rural area comprising predominantly agricultural land, with approximately twenty properties interspersed throughout the Site and surrounding area. A section of Native Woodland is located in the south east of the Site, approximately 100 m from one of the temporary towers. There is also one area of Class 1 peatland (nationally important carbon-rich soils, deep peat and priority peatland habitat) at the location of one of the proposed access tracks and one of the dismantled towers.

1.3.2 According to the National Landscape Character Assessment conducted by NatureScot, this area of Aberdeenshire sits in a Coastal Agricultural Plain, characterised by gently undulating landform and typically comprising low-lying exposed farmland. This Landscape Character Type is also identifiable by the presence of electricity transmission lines and other development.

2. PROPOSED DEVELOPMENT

2.1 Design Components

Overhead Line Connection

2.1.1 The proposed 400 kV 'In' leg will divert from the existing New Deer to Peterhead OHL to the Netherton Hub for a length of approximately 3.3 km, while the proposed 400 kV 'Out' leg will connect the Netherton Hub back to a new proposed OHL ('The Rebuild') that will connect to the Peterhead substation, for a length of approximately 2 km.

2.1.2 The proposed OHL connection will consist of eighteen steel lattice towers – eleven towers along the 'In' leg and seven towers along the 'Out' leg – which will support six conductor bundles on six cross arms and an earth wire between the peaks for lightning protection. The 'In' Tie-In to the Netherton Hub from the west will use the same L8(c) towers as the existing line. These towers are expected to have an average height of approximately 53 m. The 'Out' Tie-In from Netherton Hub eastwards will use the ASTI SSE400 tower design due to the requirement to support larger conductors to facilitate greater power transfer. These towers are expected to have an average height of approximately 57 m.

2.1.3 The average distance between the towers is expected to be between 320 m and 350 m for both the 'In' and 'Out' sections, with the distance between them depending on several factors such as altitude, climatic conditions and topography.

2.2 Temporary Infrastructure

Temporary Diversion

2.2.1 Two temporary diversion towers will be erected at Grid Reference NK 03349 43523 and Grid Reference NK 06972 43735 respectively to facilitate the diversion of the existing OHL to the new length of OHL during the construction stage. Once the permanent towers have been erected and the conductors transferred to the new OHL, these two towers will be dismantled.

Construction Compound

2.2.2 The location of the main site compound, determined by the appointed Contractor, will store bulk materials and contain offices. Given the uncertainty on its size and location, it is not appraised in this HRA and will be consented under a separate planning application or may qualify as permitted development. There will be small compounds located at each proposed and existing tower comprising a welfare area, parking and laydown area which have been considered in the wider Environmental Assessment (EA) Report.

Access

2.2.3 Safe construction access will be required to each tower construction site for delivery of materials, plant, fittings, fixtures, working platforms and operatives. Access requirements to each tower have been considered as part of the design process to ensure that each access track is suitable for the tower type and the construction operations required at that particular tower.

2.2.4 Approximately 10 km of new access tracks and 1 km of upgraded existing tracks will be created to provide an access route for construction vehicles between the public road network and the tower locations.

2.2.5 Access track upgrades, construction of new access tracks and ground protection can be undertaken in a number of ways. Although the final preferred method for each access track will be selected by the Principal Contractor based on the suitability to withstand expected construction loads, cause the least environmental damage and be installed / recovered at the lowest cost, assumptions have been made for the purpose of the assessment presented in this EA Report.

2.3 Construction Methodology

2.3.1 The construction of High Voltage OHL typically follows a standard sequence of events as follows:

- Phase 1 – Enabling Works;
- Phase 2 – Construction Works;
- Phase 3 – Commissioning;
- Phase 4 – Removal of Existing OHL Sections; and
- Phase 5 – Re-instatement

2.3.2 These are referred to in detail in **Chapter 2: Description of Proposed Development (Volume 1)**.

Material Use

2.3.3 Wherever possible, the Applicant will seek opportunities to minimise import and export of materials. Potential measures include reusing any waste arising from the construction into design; for example, topsoil will be utilised in restoring the Site.

2.3.4 All scrap metal, conductors and glass insulators from the dismantled towers will be removed from site and managed in line with waste management measures presented in the CEMP, which will be the responsibility of the Principal Contractor.

Water Use and Drainage

2.3.5 A Site Water Management Plan will be developed to manage potential risks to the water environment including locations for silt mitigation measures, dewatering of excavations inclusive of pump locations, monitoring points, cut off drains, and SuDS (incl. compound). In addition, this plan will show how rivers downstream will be protected from sedimentation or pollution resulting from the project activities. The Site Water Management Plan will include details of the layout of the Proposed Development, as well as any access tracks detailing all locations of water mitigation measures.

Access and Transport

2.3.6 Vehicle movements will relate to a variety of project requirements including movement of workers to site, construction of new or upgraded access tracks to enable delivery of the foundation materials, tower components and conductor materials to site in addition to the delivery and collection of materials and construction plant from the main site compound to individual tower locations. Removal of waste materials associated with the dismantled towers will also be required.

2.3.7 The Principal Contractor will identify a safe area within the main contractor's compound for parking away from the public road, however there will also be an area for vehicles to park at the smaller tower compounds.

2.3.8 A Construction Traffic Management Plan (CTMP) will be developed by the Principal Contractor, which will be agreed with Aberdeenshire Council's highways department in advance of construction works commencing.

2.4 Construction Programme and Working Hours

2.4.1 For the purposes of this HRA, it is assumed that construction working hours will be 7.00 to 19.00 during British Summer Time (BST). Working days during Greenwich Mean Time (GMT) will commence at 07:30 and finish at 18:00 (or as daylight allows). Any out of hours working would be agreed in advance with Aberdeenshire Council.

3. HABITATS REGULATIONS ASSESSMENT

3.1.1 The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations)[1] place a duty upon 'Competent Authorities', to consider the potential for Likely Significant Effects (LSE) upon European sites arising from projects or plans. European sites considered through HRA include Special Areas of Conservation (SAC) and Special Protection Areas (SPA), as well as those currently proposed for designation.

3.1.2 Ramsar sites are wetlands of international importance designated under the Convention on Wetlands of International Importance 1971 ('the Ramsar Convention'). There is no designated legislation for the protection of Ramsar sites. All of the Ramsar sites in Scotland are either SPAs, SACs or Sites of Special Scientific Interest ('SSSIs'). Policy 4c of Scotland's fourth National Planning Framework (NPF4) also now includes consideration of Ramsar sites. Specifically, as of 9th July 2025, Scotland's Chief Planner has directed that all listed Ramsar sites in Scotland should be treated as if they were European sites for the purposes of land use change decision making. In a change to the previous policy position which is reflected in policy 4c of National Planning Framework 4 (NPF4), the Chief Planner has directed that all listed Ramsar sites in Scotland should be treated as if they were European sites for the purposes of land use change decision making. The HRA has applied this updated policy to its assessments of the effects of the Proposed Development on Ramsar sites.

3.1.3 In accordance with guidance on the interpretation of the Habitats Directive (European Commission, 2000a)[2] there is a step-wise approach which should be followed to enable Competent Authorities to discharge their duties under the Habitats Directive, usually summarised in four distinct stages of assessment, collectively known as HRA:

- Stage 1: Screening: the process which identifies whether effects upon a European site of a plan or project are possible, either alone or in combination with other plans or projects and considers whether these effects are likely to be significant.
- Stage 2: Appropriate Assessment: the detailed consideration of the effect on the integrity of the European site of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function.
- Stage 3: Assessment of alternative solutions: the process which examines alternative ways of achieving the objectives of the plan or project that avoid adverse effects on the integrity of the European site.
- Stage 4: Assessment where no alternative solutions exist and where adverse effects remain: an assessment of whether the development is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the European site network.

3.1.4 This report covers Stage 1 and Stage 2 of the Process: HRA Screening and Appropriate Assessment as the conclusion at Stage 2 was that there would be no Adverse Effects on Site Integrity (AESI).

3.1.5 The Habitats Regulations place a duty upon competent authorities, to consider the potential for effects upon European sites prior to granting consent for projects or plans. Consent for the Proposed Development is required from the competent authority which, in this instance, is the Scottish Ministers

[1] UK Government Website. https://www.legislation.gov.uk/uksi/2017/1012/contents

[2] European Commission Website https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

4. RELEVANT EUROPEAN SITE AND BASELINE INFORMATION

4.1 European Sites

4.1.1 A search for European sites within 10 km of the Proposed Development (extended to 20 km for SPAs with goose/swan qualifying interests) identified six European sites within these search parameters. The search area of 10 km is considered a realistic distance over which to assess the potential for LSE on non-mobile qualifying interests (habitats) and mobile qualifying interests which are unlikely to make long distance movements. However, studies of foraging geese indicate a large foraging range of up to 20 km[3]. The Proposed Development is within 20 km of European sites with geese as qualifying interests, and the footprint of the Proposed Development and immediate surrounding areas are potentially suitable foraging habitat for geese.

4.1.2 European sites considered relevant to this HRA are listed below with the direction and approximate distance from the Proposed Development:

- Buchan Ness to Collieston SAC (6 km southeast, along the coast) – designated for vegetated sea cliffs.
- Buchan Ness to Collieston Coast SPA (5.5 km southeast, along the coast) – designated for breeding fulmar, guillemot, herring gull, kittiwake, shag and seabird assemblage.
- Ythan Estuary, Sands of Forvie and Meikle Loch SPA (9.7 km south) – designated for breeding common tern, Sandwich and little tern, and non-breeding/overwintering eider, lapwing, redshank, pink-footed goose and waterfowl assemblage.
- Loch of Strathbeg SPA and Ramsar (12.4 km north) – designated for breeding sandwich tern, and non-breeding/overwintering goldeneye, teal, greylag goose, pink-footed goose, Svalbard barnacle goose, whooper swan and waterfowl assemblage – as well as eutrophic loch habitat under the Ramsar citation.
- Ythan Estuary and Meikle Loch Ramsar (14 km south)–designated for breeding common tern, Sandwich and little tern, and non-breeding/overwintering eider, lapwing, redshank, pink-footed goose and waterfowl assemblage.

4.1.3 The potential impacts and effects to the above European sites from the Proposed Development are shown in **Table 4.1** below**.** Locations of the European sites relative to the Proposed Development are shown in **HRA Figure 1**. Information for the European sites is shown in **Table 4.2** below, taken from NatureScot Sitelink[4].

Table 4.1: Potential Impacts and Effects from the Proposed Development

Activity	Potential Impact	Potential Effect	ZoI
Construction phase works	Disturbance/displacement of qualifying species from the footprint of the Proposed Development and adjacent areas – visual and acoustic disturbance from the movement of plant and equipment and operation of plant.	Disturbance/displacement from foraging areas affecting fitness and survival rates for qualifying interests using Functionally Linked Land (FLL).	1000 m based on predicted maximum disturbance distance for foraging geese from studies[5].

[3] Mitchell, C. (2012). Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / SNH report, Slimbridge. 108pp.

[4] NatureScot (2026) NatureScot Sitelink. Available at: https://sitelink.nature.scot/home.

[5] Goodship, N.M. and Furness, R.W. (MacArthur Green) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283. https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance#Black-throated+diver,+Gavia+arctica

Activity	Potential Impact	Potential Effect	ZoI
Operational OHL	Collison with the operational OHL resulting in mortalities for qualifying species commuting to and from FLL.	Reduction in the qualifying population of the European site.	Qualifying species flying across the Proposed Development at Potential Collision Height (PCH)[6].
***Note: SPAs qualifying under Articles 4.1 or 4.2 of the Birds Directive (as implemented by the Habitats Regulations).**			

4.1.4 The following potential impacts are scoped out based on the scale and nature of the Proposed Development:

- Reduction in water and air quality during the construction phase – impacts on habitats through the release of sediment and hydrocarbons during work activities. The Proposed Development is relatively localised in scale and a significant distance from the European sites; the closest European site is approximately 5.4 km away. Significant changes to water or air quality affecting the integrity of all European sites are unlikely.
- The impact of habitat loss and degradation is scoped out. Works locations will be located on farmland, potentially used by foraging goose populations and herring gull from the European sites. However, no significant permanent loss of habitat will occur. The footprint of the operational OHL will result in approximately 114.47 ha of permanent habitat loss, while displacement during the construction phase will potentially result in temporary habitat loss of approximately 1863 ha, based on a maximum disturbance area for geese of 1 km[6]. Such habitat is very extensive beyond the relatively localised, linear footprint of the Proposed Development, extending for >2 km in all directions. Further, agricultural habitat is a non-specialised habitat which is unremarkable in the context of rural Aberdeenshire. Any impacts from habitat loss and degradation are considered *de minimis* impacts.

4.2 Relevant Field Surveys and Desk Study Information

4.2.1 Based on a review of the qualifying interests of the relevant European sites, geese have the highest potential to be impacted by the Proposed Development. Goose field use surveys were undertaken for two associated developments during October 2023 to February 2024:

- Aberdeenshire High Voltage Direct Current (HVDC) Connection Eastern Green Link 3. The associated development includes the construction of a HVDC Underground Cable (UGC) between a landfall, Sandford Bay, Aberdeenshire and the proposed Netherton Hub converter station. The survey area for the associated development had extensive overlap with the Proposed Development.
- Spittal to Peterhead HVDC Link. The associated development includes the construction of a HVDC Underground Cable (UGC) between a landfall, St Fergus, Aberdeenshire and the proposed Netherton Hub converter station. The survey area for the associated development had partial overlap with the Proposed Development

4.2.2 Goose field use surveys followed industry standard guidance[7]. Although this guidance was produced for wind farm developments, the methods described for goose field use surveys are equally valid for the Proposed Development; the purpose of the survey is to understand the numbers and frequency of use by foraging geese within the ZoI of a development.

- Fields within 500 m of the preferred route corridors for the developments (the survey area) were surveyed twice a month from October 2023 until February 2024.

[6] PCH defined for the Proposed Development as between 20-50m

[7] NatureScot, formerly SNH (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. This guidance was updated in 2025 after completion of the referenced surveys

- The locations of all goose foraging flocks encountered were marked on a field survey map and the number of geese present counted. HRA Figure 2 shows the locations of goose flocks recorded during the surveys where the locations are relevant to the predicted ZoI of the Proposed Development.

4.2.3 Only one observation of foraging geese was made within the Proposed Development's maximum ZoI of 1 km involving 38 pink-footed geese foraging in a field alongside the Proposed Development in November 2023. Favoured foraging areas identified for geese in the wider survey area for the associated projects during 2023-2024 were a significant distance from the Proposed Development (>9 km).

4.2.4 Additionally, flight activity surveys following industry standard guidance[8] were undertaken from a single Vantage Point (VP) for a previous iteration of the Proposed Development from April 2023-March 2024. Flight activity survey data informs assessment of potential collision risk to qualifying populations of geese during commuting flights across the operational Proposed Development. The area of coverage for the flight activity surveys remains relevant to the updated Proposed Development design.

4.2.5 A total of eight pink-footed geese flights involving 424 individuals were recorded. Of this total, five flights involving 287 individuals crossed the Proposed Development. Only one of the five flights, involving two individuals, was at PCH while the remaining four flights were above PCH (>50 m). There was one greylag goose flight involving four birds and one whooper swan flight involving two birds, neither flight crossed the Proposed Development. Flight activity is shown on **HRA Figure 2**.

4.2.6 The main sources of desk study data for assessing the distribution of foraging geese relevant to the footprint of the Proposed Development is Mitchell (2012)[9] and Littlewood and Sideris (2016)[10]. The latter study provides detailed information on the distribution of foraging geese from Loch of Strathbeg SPA. A summary of indicative goose foraging distribution for the relevant European sites based on these studies is provided below.

Loch of Strathbeg SPA.

4.2.7 Mitchell notes that the European site no longer supports internationally important numbers of Icelandic greylag geese with numbers falling from several thousand birds in the 1970's and 1980's to a few hundred birds in the early 1990's. The distribution map for foraging flocks within 20 km of the European site shows that birds more typically foraged to the west and north-west of the footprint of the Proposed Development. For pink-footed-goose, the European site remains one of the main roost sites in the UK and has supported over 60,000 geese.

4.2.8 The distribution map in Mitchell (Plate 1) for foraging pink-footed geese within 20 km of the European site shows that core foraging areas are to the north-east of the Proposed Development. This is further supported by the Littlewood and Sideris study which notes regular concentrations of foraging geese in a goose management area[11] between Loch of Strathbeg SPA and the St Fergus gas terminal. The distribution of foraging geese from the WSP surveys of associated projects also

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8 NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore windfarms https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms#2-target-species https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms

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

10 Littlewood, N.A. & Sideris, K. (2016). A survey of the feeding distribution of geese around the Loch of Strathbeg. Scottish Natural Heritage Commissioned Report No. 937. https://www.nature.scot/sites/default/files/Publication%202016%20-%20SNH%20Commissioned%20Report%20937%20-%20A%20survey%20of%20the%20feeding%20distribution%20of%20geese%20around%20the%20Loch%20of%20Strathbeg.pd

11 Since 1994, a goose management scheme, in one form or another, has been in place at the Loch of Strathbeg, with the support of the Loch of Strathbeg Local Goose Management Group (LGMG). In 2013, decreased funding for all goose schemes in Scotland resulted in the boundary being reduced to cover the agricultural areas just north and south of the Loch of Strathbeg roost. In spring, as the geese prepare for their journey back to their breeding grounds, up to 20,000 feed on grass on neighbouring farmland, delaying the turnout of livestock and reducing yields of silage. The Loch of Strathbeg Goose Management Scheme was introduced to help meet the costs owners incur by allowing the geese to graze on their land undisturbed.

recorded foraging geese in this area during four consecutive months, involving up to 2,300 pink-footed geese. This area is >9 km north-east of the Proposed Development.

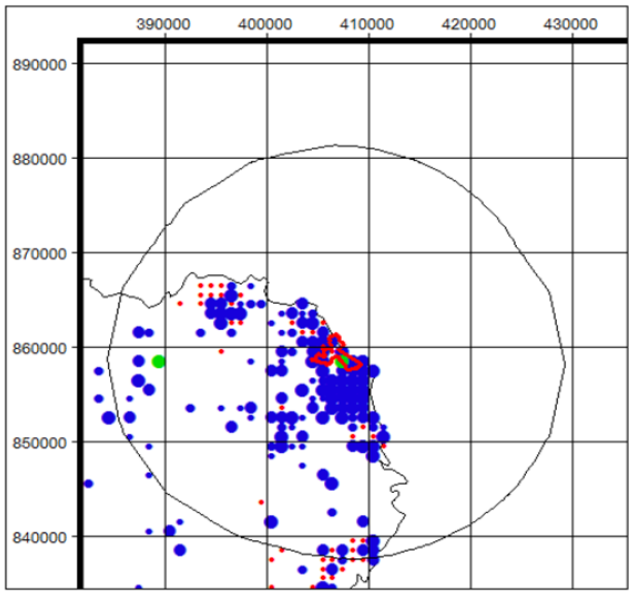


Figure 4.1: Plate 1. Feeding distribution within 20 km of Loch of Strathbeg SPA (1986/87 to 2011/12) of Pink-footed Geese. Taken from Mitchell (2012)[9]

Legend:

Red line: SPA boundary.

Black line: 20 km buffer.

Black triangle: approximate location of the Site.

Green dots: principal roost sites holding more than 1.0 % of the population (based on count data from 2010/11).

Blue dots: sensitivity index, based on annual peak counts of foraging birds for each 1 km grid square, represented by four graduated dots.

Red dots: 1 km squares for which no quantitative data exists but geese were known to be present.

Ythan Estuary, Sands of Forvie and Meikle Loch SPA

4.2.9 The distribution map in Mitchell (Plate 2) below shows that there is potential for foraging pink-footed geese from the European site to use the footprint occupied by the Proposed Development. However, far more dense clusters of foraging activity are indicated to the south of the Proposed Development.

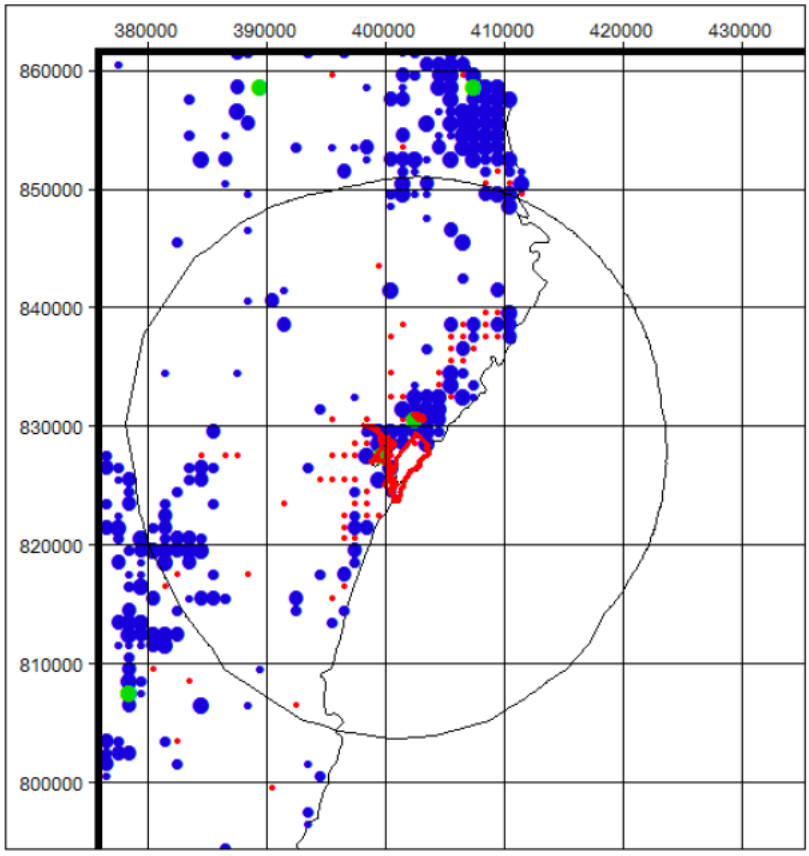


Figure 4.2: Plate 2. Feeding distribution within 20 km of Ythan Estuary, Sands of Forvie and Meikle Loch SPA (1986/87 to 2011/12) of Pink-footed Geese. Taken from Mitchell (2012)[9]

Legend:

Red line: SPA boundary.

Black line: 20 km buffer.

Black triangle: approximate location of the Site.

Green dots: principal roost sites holding more than 1.0 % of the population (based on count data from 2010/11).

Blue dots: sensitivity index, based on annual peak counts of foraging birds for each 1 km grid square, represented by four graduated dots.

Red dots: 1 km squares for which no quantitative data exists but geese were known to be present.

Table 4-2: European Site Information

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
Buchan Ness to Collieston SPA. **Site 8473** 15 km stretch of cliffs, formed of granite, quartzite, and other rocks, runs south of Peterhead, broken only by the sandy beach of Cruden Bay. The varied coastal vegetation on the ledges and the cliff tops includes maritime heath, grassland, and brackish flushes.	Qualifies under Article 4.2 of the Birds Directive by regularly supporting over 20,000 individual seabirds. It regularly supports 95,000 seabirds including nationally important populations of the following species: • Black-legged kittiwake *Rissa tridactyla* (30,452 pairs, 6.2% of the GB population), • Common guillemot *Uria aalge* (8,640 pairs, 1.2% of GB population), • Herring gull *Larus argentatus* (4,292 pairs, 2.7% of the GB population), -European shag *Phalacrocorax aristotelis* (1,045 pairs, 2.7% of the GB population) • Northern fulmar *Fulmarus glacialis* (1,765 pairs, 0.3% of the GB population).	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site; • Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and • No significant disturbance of typical species of the habitat.	Fulmar – Unfavourable declining. Guillemot – Favourable maintained. Herring gull – Unfavourable no change Kittiwake – Unfavourable no change Shag – Unfavourable no change
Loch of Strathbeg SPA **Site 8537** Composed of a shallow freshwater loch with surrounding wetland, dune, and grassland communities. It provides wintering habitat for several important wetland bird species, particularly wildfowl.	Qualifies under Article 4.1 of the Birds Directive by regularly supporting populations of European importance of the Annex 1 species: • Sandwich tern *Sterna sandvicensis* (1985 to 1990 an average of 280 pairs, 2.0% of the GB population); • Whooper swan *Cygnus cygnus* (a 5-year winter peak mean between 1986/87 and 1990/91 of 245 individuals, 4% of the GB population) and	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site;	Sandwich tern – Unfavourable no change Whooper swan – Favourable maintained Svalbard barnacle goose – Unfavourable declining Pink-footed goose – Favourable maintained Greylag goose – Unfavourable no change

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
	• Svalbard barnacle goose *Branta leucopsis* (a 5-year winter peak mean between 2005/06 and 2009/10 of 520 individuals, 1.6% of the GB population). Further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species: • Pink-footed goose *Anser brachyrhynchus* (1986/87 to 1990/91, average winter peak count of 27,500 individuals, 25% of the Eastern Greenland/Iceland/UK biogeographic population); and • Greylag goose *Anser anser* (1986/87 to 1990/91, average winter peak count of 5,565 individuals, 6% of the Iceland/UK/Ireland biogeographic population). Also qualifies under Article 4.2 by regularly supporting more than 20,000 individual waterfowl.	• Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and • No significant disturbance of typical species of the habitat.	
Loch of Strathbeg Ramsar **Site 8443** Composed of a shallow freshwater loch with surrounding wetland, dune, and grassland communities. It provides wintering habitat for several important wetland bird species, particularly wildfowl.	The Loch of Strathbeg Ramsar site also qualifies under Ramsar Criterion 2 by supporting: • Sandwich tern (1985 to 1990, an average of 280 pairs, 2.0% of the GB population). The Loch of Strathbeg Ramsar site further qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more. In the five year period 1986/87 to 1990/91 the average peak count was 32,600 individual waterbirds.	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site;	None Listed

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
	The site also qualifies under Ramsar Criterion 4 by supporting the following waterbird species at a critical stage in their life cycles: • Teal *Anas crecca* (1,270 individuals, 1% of the GB population), and • Goldeneye *Bucephala clangula* (150 individuals, 1% of the GB population). The Loch of Strathbeg Ramsar site qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds: • Pink-footed goose (1986/87 to 1990/91, average winter peak count of 27,500 individuals, 25% of the Eastern Greenland/Iceland/UK biogeographic population) • Greylag goose (1986/87 to 1990/91, average winter peak count of 5,565 individuals, 6% of the Iceland/UK/Ireland biogeographic population). • Whooper swan (a 5-year winter peak mean between 1986/87 and 1990/91 of 245 individuals, 1.5% of the Iceland/UK & Ireland biogeographic population), and • Svalbard barnacle goose (a 5-year winter peak mean between 2005/06 and 2009/10 of 520 individuals, 1.6% of the Svalbard/SW Scotland biogeographic population).	• Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and • No significant disturbance of typical species of the habitat.	
Buchan Ness to Collieston SAC **Site 8214**	Annex I habitats that are a primary reason for selection of this site:	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an	Favourable declining

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
Vegetated cliff slopes supporting a wide range of coastal vegetation types.	• Vegetated sea cliffs of the Atlantic and Baltic Coasts. Notable flora includes Scots lovage *Ligusticum scoticum* and roseroot *Sedum rosea.*	appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site; • Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and • No significant disturbance of typical species of the habitat.	
Ythan Estuary, Sands of Forvie and Meikle Loch SPA **Site 8592** Covers a complex area in the north-east of Scotland that contains the long, narrow estuary of the River Ythan, the Sands of Forvie on the east bank of the estuary; the eutrophic Meikle Loch and a marine component covering the area between Aberdeen and Cruden Bay to the north.	Qualifies under Article 4.1 of the Birds Directive by regularly supporting populations of European importance of the Annex 1 species: • Sandwich tern (1989 to 1991, up to 1125 pairs, up to 7% of the GB population); • Common tern *Sterna hirundo* (1989 to 1993, up to 265 pairs, up to 2% of the GB population); and • Little tern *Sternula albifrons* (1989 to 1993, up to 41 pairs, up to 2% of the GB population). The marine component, immediately offshore of the terrestrial area forms the foraging zone for both Sandwich terns and little terns.	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site; • Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and	Sandwich tern – Favourable maintained Common tern – Unfavourable no change Little tern – Favourable maintained Pink-footed goose – Favourable maintained

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
	Further qualifies under Article 4.2 of the Birds Directive by regularly supporting populations of European importance of the migratory species: • Pink-footed goose (1988/89 to 1992/93 winter peak mean of 17,213 individuals, 9% of the Eastern Greenland/Iceland/UK biogeographic population). Also qualifies under Article 4.2 of the Birds Directive by regularly supporting more than 20,000 individual waterfowl.	• No significant disturbance of typical species of the habitat.	
Ythan Estuary, Sands of Forvie and Meikle Loch Ramsar **Site 8460** The site comprises the long, narrow estuary of the River Ythan and the eutrophic Meikle Loch. Extensive mud flats in the upper reaches of the estuary are replaced by coarser gravels with mussel beds closer to the sea. The margins of the estuary are varied, with areas of saltmarsh, reedbeds and poor fen. Meikle Loch is an important roost site for geese which feed on surrounding farmland in winter. It is a eutrophic loch supporting limited aquatic vegetation. The loch is joined by a burn to the smaller Little Loch.	The Ythan Estuary and Meikle Loch Ramsar site qualifies under Ramsar Criterion 2 by supporting: • Common tern (1989 to 1993, up to 265 pairs, up to 2% of the GB population), and • Little tern (1989 to 1993, up to 41 pairs, up to 2% of the GB population). The Ythan Estuary and Meikle Loch Ramsar site also qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more. In the five-year period 1988/89 to 1992/93 a winter peak mean of 26,400 individual waterbirds was recorded, comprising 8,000 waders and 18,400 wildfowl. The site also qualifies under Ramsar Criterion 4 by supporting the following waterbird species at a critical stage in their life cycles: • Eider *Somateria mollissima* (winter peak mean of 1,860 individuals, 2% of the GB population). In the five-year period 1991/92 to 1995/96, a winter peak mean of 51,265 individual waterbirds	To avoid deterioration of the qualifying habitat and species thus ensuring that the integrity of the site is maintained, and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and To ensure for the qualifying habitat and species that the following are maintained in the longer term: • Extent of the habitat and population of the species as a viable component on site; • Distribution of the habitat and species within the site; • Structure, function, and supporting processes of habitats and species; • Distribution of typical species of the habitat; and • No significant disturbance of typical species of the habitat.	None Listed

Site and Description	Qualifying Features	Conservation Objectives	Condition Assessment
	was recorded with the assemblage additionally including nationally important populations of: • Redshank *Tringa totanus* (1,149 individuals, 1% of the GB population), and • Lapwing *Vanellus vanellus* (2,542 individuals, 0.2% of the GB population). The Estuary and Meikle Loch Ramsar site further qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds: • Sandwich tern (1989 to 1991, up to 1,125 pairs, up to 2% of the Western Europe biogeographic population), and • Pink-footed goose (1988/89 to 1992/93 winter peak mean of 17,213 individuals, 9% of the Eastern Greenland/Iceland/UK biogeographic population). Pink-footed goose is also a component of the waterbird assemblage.		

5. HRA SCREENING

5.1.1 The potential impacts from the Proposed Development and their potential effect on the European sites are detailed in **Table 5-1** to **Table 5-3** below. The following designated sites are assessed together given the overlap in qualifying species and footprint of these designations;

- Loch of Strathbeg SPA/Ramsar;
- Ythan Estuary, Sands of Forvie and Meikle Loch SPA; and
- Ythan Estuary and Meikle Loch Ramsar

5.1.2 Buchan to Colllieston SAC has been scoped out from screening. The European site's qualifying interests relate to habitats rather than mobile species that might use functionally-linked habitat within the footprint of the Proposed Development and therefore be subject to disturbance and displacement. The only relevant potential impact that may have applied to this European site, changes to water and air quality, have been scoped out due to the scale and nature of the Proposed Development and distance from the European site (6 km away), outside a likely zone of influence.

Table 5-1: Buchan Ness to Collieston SPA Screening Assessment

Potential Impact/Effect	Screening Assessment
Disturbance/displacement of qualifying species from the footprint of the Proposed Development and adjacent areas during the construction phase – visual and acoustic disturbance from the movement of plant and equipment and operation of plant.	**Black-legged kittiwake, common guillemot and Northern fulmar** Most of the qualifying species of the European site are specialist marine species nesting on cliffs and foraging at sea. The nearest cliff nesting habitat for seabirds anticipated is 5.5 km away. Therefore, disturbance to nesting seabirds is highly unlikely. Potential displacement from functionally-linked habitat would not occur for these species due to their specialist marine ecology, the footprint of the Proposed Development is wholly unsuitable for these species. **No Likely Significant Effects** **Herring Gull** Herring gull could potentially forage on arable farmland within the Proposed Development footprint or nearby. However, construction works to facilitate the Prosed Development are temporary and are relatively localised in comparison to the availability of farmland in the wider surrounding area which is very extensive. Furthermore, gulls are relatively tolerant of human activities, e.g., they will follow ploughing operations and scavenge discarded food items in towns and cities. Taking account of all the above, no effect pathways resulting in LSE to qualifying interests of the European site are predicted. **No Likely Significant Effects**
Collison with the operational OHL resulting in mortalities for qualifying species	**Black-legged kittiwake, common guillemot and Northern fulmar** Considering the lack of suitable habitat within a ZoI of the Proposed Development for these specialist marine species, no effect pathways resulting in LSE to qualifying interests of the European site are predicted. **No Likely Significant Effects** **Herring Gull** There is potential for herring gull flights to cross the operational OHL as arable farmland within the Proposed Development footprint and immediate vicinity provides suitable foraging habitat. A requirement for gulls to be included as target species for flight activity surveys was part of updated guidance from NatureScot for informing impact assessment of onshore windfarms[12]. Surveys to inform assessment of the Proposed Development were undertaken in 2023-2024 before publication of this updated guidance.

[12] NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore windfarms. NatureScot Guidance

Potential Impact/Effect	Screening Assessment
	Herring gulls were recorded using secondary species methodology which does not include the recording of flight heights. However, the secondary species methodology allows a measure of abundance. Each three-hour flight activity survey watch is divided into five-minute periods, at the end of which the number and activity of all secondary species observed is recorded. A minimum number for each secondary species is recorded for the five-minute period along with the activity observed, bird in flight or perched. Data for herring gull recorded using secondary species methodology showed that this species occurred in 112 out of a possible maximum of 840 five-minute periods across 72 hours of survey coverage from the single VP (13% occurrence rate). A total of 1,486 individuals were recorded, all in the non-breeding season (September-February Inclusive). The peak count of 388 was recorded in September 2023 with three other three figure counts made on the same date in November. The rest of the counts involved double or single figures. 1,486 individuals represent approximately 17% of the SPA population (8,584 individuals) assuming all individuals involved were different individuals and if all individuals formed part of the qualifying breeding population of the SPA. Considering the peak numbers of herring gull recorded from the surveys were in the non-breeding season it is unlikely that all individuals recorded involved the breeding population from the European site; in the non-breeding season gulls can disperse over large distances13 and there are several non-SPA herring gull colonies in north-east Scotland from where birds utilising habitat within a ZoI of the Proposed Development could be connected. Despite this it cannot be ruled out that a statistically significant proportion (>1%) of SPA individuals could be flying across the Proposed Development. Further, the secondary species methodology doesn't allow for detailed collision risk analysis e.g. what proportion of herring gull flights crossed the Proposed Development at collision risk height. **Likely Significant Effects**

Table 5-2: Ythan Estuary, Sands of Forvie and Meikle Loch SPA/Ramsar Screening

Potential Impact/Effect	Screening Assessment
Disturbance/displacement of qualifying species from the footprint of the Proposed Development and adjacent areas during the construction phase – visual and acoustic disturbance from the movement of plant and equipment and operation of plant.	**Geese and Swans** The Proposed Development occupies a footprint dominated by arable farmland which is potentially suitable for foraging geese and is within the foraging range of geese forming the qualifying population of the European site. However, during surveys for associated projects with overlapping survey areas, only one observation of foraging geese was made within the Proposed Development's maximum ZoI of 1 km: 38 pink-footed geese foraging in a field alongside the Proposed Development in November 2023. Favoured foraging areas identified for geese in the wider survey area for the associated projects during 2023-2024 were a significant distance from the Proposed Development (>9 km). This distribution aligns with the findings of studies on goose distribution relative to the SPA[9,10]. Considering this low rate of occurrence, no pathways for LSE are predicted. **No Likely Significant Effects** **Sandwich Tern** Another qualifying species, sandwich tern, is highly unlikely to be affected by the Proposed Development. The SPA is approximately 9.7 km from the Proposed Development. Disturbance and displacement of Sandwich tern from functionally linked foraging habitat is highly unlikely as this species

[13] NatureScot Website. Assessing foraging movements and habitat use of herring gulls (Larus argentatus) in the Forth Islands SPA https://www.nature.scot/doc/assessing-foraging-movements-and-habitat-use-herring-gulls-larus-argentatus-forth-islands-spa#data-collected.

Potential Impact/Effect	Screening Assessment
	forages for fish within the marine environment. Habitat within the Proposed Development footprint and immediately surrounding is wholly unsuitable. **No Likely Significant Effects** **Teal and Goldeneye** Additional qualifying species, teal and goldeneye, are specialist freshwater species and the habitats within and immediately surrounding the Proposed Development are wholly unsuitable for these species. **No Likely Significant Effects**
Collison with the operational OHL resulting in mortalities for qualifying species	**Geese and swans** Surveys to inform assessment of a previous iteration of the Proposed Development recorded a total of eight pink-footed geese flights involving 483 individuals. Of this total, five flights involving 287 individuals crossed the Proposed Development. Only one of the five flights, involving two individuals, was at Potential Collision Height (PCH) while the remaining four flights were above PCH (>50 m). There was one Greylag Goose flight involving four birds which did not cross the Proposed Development. The low rate of occurrence aligns with the distribution of favoured foraging areas for geese discussed above under disturbance/displacement. Considering the low rate of occurrence and the likelihood that most flight activity will be above the height of the Proposed Development, no pathways for LSE are predicted. **No Likely Significant Effects** **Sandwich Tern, Teal, and Goldeneye** Considering the wholly unsuitable habitat for these species within and near the Proposed Development footprint there is no credible pathway for LSE. **No Likely Significant Effects**

Table 5-3: Loch of Strathbeg SPA/Ramsar Screening Assessment

Potential Impact/Effect	Screening Assessment
Disturbance/displacement of qualifying species from the footprint of the Proposed Development and adjacent areas during the construction phase – visual and acoustic disturbance from the movement of plant and equipment and operation of plant.	**Geese and Swans** The Proposed Development occupies a footprint dominated by arable farmland which is potentially suitable for foraging geese and is within the foraging range of geese forming the qualifying population of the European site. However, during surveys for associated projects with overlapping survey areas, only one observation of foraging geese was made within the Proposed Development's maximum ZoI of 1 km: 38 pink-footed geese foraging in a field alongside the Proposed Development in November 2023. Favoured foraging areas identified for geese in the wider survey area for the associated projects during 2023-2024 were a significant distance from the Proposed Development (>9 km). This distribution aligns with the findings of studies on goose distribution relative to the SPA[9,10]. Considering this low rate of occurrence, no pathways for LSE are predicted. **No Likely Significant Effects** **Sandwich Tern** Another qualifying species, sandwich tern, is highly unlikely to be affected by the Proposed Development. The SPA is approximately 12.4 km from the Proposed Development. Disturbance and displacement of Sandwich tern from functionally linked foraging habitat is highly unlikely as this species forages for fish within the marine environment. Habitat within the Proposed Development footprint and immediately surrounding is wholly unsuitable.

Potential Impact/Effect	Screening Assessment
	No Likely Significant Effects **<u>Teal and Goldeneye</u>** Additional qualifying species, teal and goldeneye, are specialist freshwater species and the habitats within and immediately surrounding the Proposed Development are wholly unsuitable for these species. **No Likely Significant Effects**
Collison with the operational OHL resulting in mortalities for qualifying species	**<u>Geese and swans</u>** Surveys to inform assessment of a previous iteration of the Proposed Development recorded a total of eight pink-footed geese flights involving 483 individuals. Of this total, five flights involving 287 individuals crossed the Proposed Development. Only one of the five flights, involving two individuals, was at Potential Collision Height (PCH) while the remaining four flights were above PCH (>50 m). There was one Greylag Goose flight involving four birds which did not cross the Proposed Development. The low rate of occurrence aligns with the distribution of favoured foraging areas for geese discussed above under disturbance/displacement. Considering the low rate of occurrence and the likelihood that most flight activity will be above the height of the Proposed Development, no pathways for LSE are predicted. **No Likely Significant Effects** **<u>Sandwich Tern, Teal, and Goldeneye</u>** Considering the wholly unsuitable habitat for these species within and near the Proposed Development footprint there is no credible pathway for LSE. **No Likely Significant Effects**

6. SCREENING CONCLUSION

6.1.1 LSE could not be ruled out for Buchan Ness to Collieston SPA. The following LSE and affected qualifying species apply to the European site: potential operational collision risk to herring gull.

6.1.2 As LSE have been identified, the HRA is required to progress to Stage 2 Appropriate Assessment (AA). Information to inform the AA has been provided in **Section 7.**

7. INFORMATION TO INFORM APPROPRIATE ASSESSMENT

7.1 Introduction

7.1.1 For the LSE identified at Stage 1, this section provides information to inform an AA, to be undertaken by the Competent Authority. The following information will allow the Competent Authority to consider potential Adverse Effects on Site Integrity (AESI) to Buchan Ness to Collieston SPA because of the Proposed Development.

7.2 Impact Avoidance and Mitigation

7.2.1 Mitigation measures described in **Table 7-1 Mitigation and AA Determination** will be incorporated into the design of the Proposed Development.

Table 7-1 Mitigation and AA Determination

Likely Significant Effects	Mitigation	AA Determination After Mitigation
Collison with the operational OHL resulting in mortalities for herring gull.	The Principal Contractor will install Bird Flight Diverters (BFDs) along the tie-in. If the conductor configuration isn't suitable for installation of BFDs, the BFDs will only be installed on the earth wire. The earth wire is less visible than the conductors and presents the highest potential collision risk. Technical information on BFDs can be found in Prinsen et al., 2011[14]. The following summary of key considerations for installation of BFDs is provided: BFDs should be installed as close together as possible (at least every 5-10 m on power lines). • BFDs should be designed for maximum visibility in different weather and light conditions, within the limits of a design approved for use on the network. All BFDs shall be maintained in line with operations standards to minimise the potential risk to birds. This includes replacing BFDs that have fallen off, been damaged or are otherwise not functioning for the purpose they were intended to. As per operations processes, all defects on BFDs shall be raised through a defect reporting system and operations shall address defects within a defect programme of works in line with planned outages. Defects shall be addressed within two	Data for herring gull, recorded using flight activity survey secondary species methodology, showed that this species occurred in 112 out of a possible maximum of 840 five-minute periods across 72 hours of survey coverage from the single VP (13% occurrence rate). A total of 1,486 individuals were recorded, all in the non-breeding season (September-February Inclusive) The peak count of 388 was recorded in September 2023 with three other three figure counts made on the same date in November. The rest of the counts involved double or single figures. 1486 individuals represent approximately 17% of the SPA population (8584 individuals) assuming all individuals involved were different individuals and if all individuals formed part of the qualifying breeding population of the SPA. It is unlikely that all individuals were associated with the qualifying breeding population of the SPA considering all observations were in the non-breeding season. In the non-breeding season gulls can disperse over large distances[14] and there are several non-SPA herring gull colonies in north-east Scotland from which birds utilising habitats within a ZoI of the Proposed Development could be connected. Despite this it cannot be ruled out that a statistically significant proportion (>1%) of SPA individuals could overfly the Proposed Development at collision risk height. It is considered that mitigation is required to conclude no adverse effect on site integrity.

[14] Prinsen, H.A.M., Smallie, J.J., Boere, G.C. & Píres, N. (Compilers). (2012). Guidelines on How to Avoid or Mitigate Impact of Electricity Power Grids on Migratory Birds in the African-Eurasian Region. AEWA Conservation Guidelines No. 14, CMS Technical Series No. 29, AEWA Technical Series No. 50, CMS Raptors MOU Technical Series No. 3, Bonn, Germany.

Likely Significant Effects	Mitigation	AA Determination After Mitigation
	OPEX budget periods i.e., 5-10 years, to enable operations to make appropriate access and safety arrangements and secure required budget. • Post installation, monitoring will be undertaken. OHL inspections are carried out by operations and include inspections of all BFDs. OHL Inspections are carried out every six years aligning with regulatory budget periods. Manufacturers specifications for BFDs are 20 years unless otherwise stated; real time failure rate observed by Operations is 15 years. Based on this, OHL Inspections of six years are considered appropriate. During these inspections, operational engineers would check for bird strike mortalities beneath the OHL. • Reactive monitoring may be undertaken on a more frequent basis where a specific higher risk has been identified e.g. increased line strikes, reporting of bird carcass in the areas.	Mitigation in the form of BFDs is proposed. It is considered that with the installation of BFDs the likelihood of collision mortality would reduce. Bernshausen & Kreuziger (2007)[15] demonstrated a collision reduction of more than 90% for gulls at a power line section near a large gull roost that had been retrofitted with a type of BFD known as bird flappers. Due to the factors described above, no significant effects on herring gull are anticipated with respect to the conservation objectives listed in **Table 4-1 European Site Information.** Therefore, no AESI has been identified. Due to the uncertainty as to the effectiveness of BFDs it is considered that minor residual effects (very low rate of collision mortality) would remain.

7.3 In-Combination Assessment

7.3.1 Plans and projects with the potential to act in-combination with the Proposed Development were identified following a review of known existing proposals. These are shown in **Table 7-2** below.

Table 7-2 Cumulative Developments

Long List ID Number	Planning Reference and Name	Approximate Distance and Orientation from Site	Description of Cumulative Development	Cumulative Effects Assessment
01	APP/2025/1262	4.5 km southeast	Consultation under Section 36 of the Electricity Act 1989 for the Installation of Battery Energy Storage System (BESS) with a Generating Capacity of up to 500MW	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential

[15] Bernshausen, F., Kreuziger, J., Uther, D. & Wahl, M. 2007. High-tension power lines and bird protection: minimising collision risks. Evaluation and measures to mark cable sections with high collision risk (in German with English summary). Naturschutz und Landschaftsplanung 39: 5-12.

Long List ID Number	Planning Reference and Name	Approximate Distance and Orientation from Site	Description of Cumulative Development	Cumulative Effects Assessment
			and Associated Infrastructure	operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
03	APP/2025/1617	1.8 km east at closest point	Onshore Transmission Infrastructure for Buchan Offshore Wind including Landfall Point, Cable Route Corridor, Cable Circuits, Erection of Substation, Control Building and Associated Works to connect to the Transmission Grid	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
05	APP/2024/1714 Netherton Hub	Overlaps site boundary	National for Erection of a Strategic Electricity Transmission Hub Including 400 kV AC Substation, 132 kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
07	APP/2025/1213	2 km north	Consultation under Section 36 of the Electricity Act 1989 for the Installation of Battery Energy Storage System (BESS) with an Installed Capacity of up to 400 MW and Associated Infrastructure	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
08	APP/2025/1383	Adjacent	Construction of Underground Cable	The cumulative development does not comprise construction of an OHL. The LSE for the

Long List ID Number	Planning Reference and Name	Approximate Distance and Orientation from Site	Description of Cumulative Development	Cumulative Effects Assessment
	Spittal to Peterhead HVDC Link			Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
09	APP/2023/1454	3.5 km west at closest point	National for Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
17	ENQ/2025/0688	Adjacent	Installation of Onshore Infrastructure forming part of Marram Wind Offshore Windfarm	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
19	ENQ/2025/0102	2.4 km southeast	Extension to Quarry	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.

Long List ID Number	Planning Reference and Name	Approximate Distance and Orientation from Site	Description of Cumulative Development	Cumulative Effects Assessment
20	ECU00006168 Aberdeenshire Council Ref: ENQ/2025/0715	Adjacent	Netherton Hub 400 kV OHL Connection to New Deer and Peterhead: Rebuild	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects. The cumulative development comprises an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development comprises a structure that presents collision risk. **Potential cumulative effects.**
21	ECU00006204	3 km southeast	Peterhead Flexpower 500 MW BESS	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.
22	ECU00006137 Aberdeenshire Council Ref: APP/2025/1555	Adjacent	Construction and operation of a Battery Energy Storage System (BESS) along with associated infrastructure and ancillary works, access, drainage, landscape and biodiversity enhancement.	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a

Long List ID Number	Planning Reference and Name	Approximate Distance and Orientation from Site	Description of Cumulative Development	Cumulative Effects Assessment
				structure that presents collision risk. No cumulative effects.
23	ECU00005165 Aberdeenshire Council Ref: APP/2025/1723	Overlaps site boundary	Application for consent under Section 37 of the Electricity Act 1989 to install, operate and keep installed approximately 186 km of new 400 kilovolt (kV) double circuit steel structure overhead transmission line (OHL).	The cumulative development comprises an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development comprises a structure that presents collision risk. **Potential cumulative effects.**
24	Not yet available	Adjacent	15.5 km of underground HVDC cable from landfall at North of St Fergus to a new HVDC Converter Station at Netherton Hub	The cumulative development does not comprise construction of an OHL. The LSE for the Proposed Development alone taken forward to Stage 2 AA was potential operational collision risk to herring gull. The cumulative development does not comprise a structure that presents collision risk. No cumulative effects.

7.3.2 From those listed in **Table 7-2** the following plans and projects were considered relevant based on their potential for the same significant effect to herring gull comprising collision mortality:

- ECU00006168. Netherton Hub 400 kV OHL Connection to New Deer and Peterhead Rebuild adjacent to the Proposed Development; and
- ECU00005165. The Beauly-Peterhead 400 kV OHL adjacent to the Proposed Development.

7.3.3 The above associated projects either connect to the Proposed Development (Netherton Hub 400 kV OHL Connection to New Deer and Peterhead Rebuild) or connect to Netherton Hub Substation (Beauly-Peterhead 400 kV OHL). There is potential for the herring gull activity identified over and near the Proposed Development to also interact with these associated projects.

7.3.4 Therefore, in-combination effects are predicted. For the associated projects, the same mitigation as for the Proposed Development is recommended; where the associated projects are within 500 m of the Proposed Development, BFDs will be installed. The process is expected to be efficient and coordinated considering the same developer is responsible for the Proposed Development and the associated projects. For technical information pertaining to line markers, please refer to **Table 7-1: Mitigation and AA Determination**.

7.3.5 Installation of BFDs up to 500 m from the Proposed Development is considered a reasonable distance to mitigate the potential collision risk effects at the activity hotspot identified during the

surveys. It is not practical or reasonable to stipulate the installation of BFDs along the entire length of the associated projects given they extend for significant distances. Further, there is inherent uncertainty in predicting the use of foraging areas by gulls in the wider area when considering factors such as annual variability in agricultural operations which influence the attractiveness of individual fields for foraging gulls e.g., ploughing.

7.3.6 No in-combination effects are predicted considering the implementation of the mitigation (BFDs) and the predicted high avoidance rate for gulls following installation, as discussed in Table 7-1: Mitigation and AA Determination.

7.4 Appropriate Assessment Conclusion

7.4.1 Potential in-combination effects were identified for Netherton Hub 400 kV OHL Connection to New Deer and Peterhead Rebuild and The Beauly-Peterhead 400 kV OHL. However, the implementation of mitigation measures for the associated projects and the Proposed Development in the form of BFDs will reduce any residual effects to minor.

7.4.2 Due to the factors described above, no significant effects on herring gull are anticipated with respect to the conservation objectives listed in Table 4-1: European Site Information. Therefore, no AESI has been identified.

7.5 Conclusions

7.5.1 At Stage 1, this document has considered the potential for effect pathways from the Proposed Development resulting in LSE on European sites. Most of the European sites were screened out at Stage 1.

7.5.2 LSE was concluded for Buchan Ness to Collieston SPA. The assessment set out in Stage 2 of this report concludes that the Proposed Development would have no adverse effect upon the integrity of the Buchan Ness to Collieston SPA or the conservation objectives relating to any of the qualifying interest features, either individually or in combination with other plans and projects, subject to the implementation of mitigation (BFDs)

ANNEX A: FIGURES

Scottish & Southern Electricity Networks
TRANSMISSION

Loch of Strathbeg SPA/Ramsar

Buchan Ness to Collieston SAC

Buchan Ness to Collieston Coast SPA

Ythan Estuary, Sands of Forvie and Meikle Loch SPA/Ramsar

Scale @ A3: 1:200,000

0 2.5 5 10 km

Esri UK, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA

Legend

- Site Boundary
- 20km Buffer
- Ramsar
- Special Protected Area (SPA)
- Special Area of Conservation (SAC)

Project No: LT000052

Project: Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Tie-In

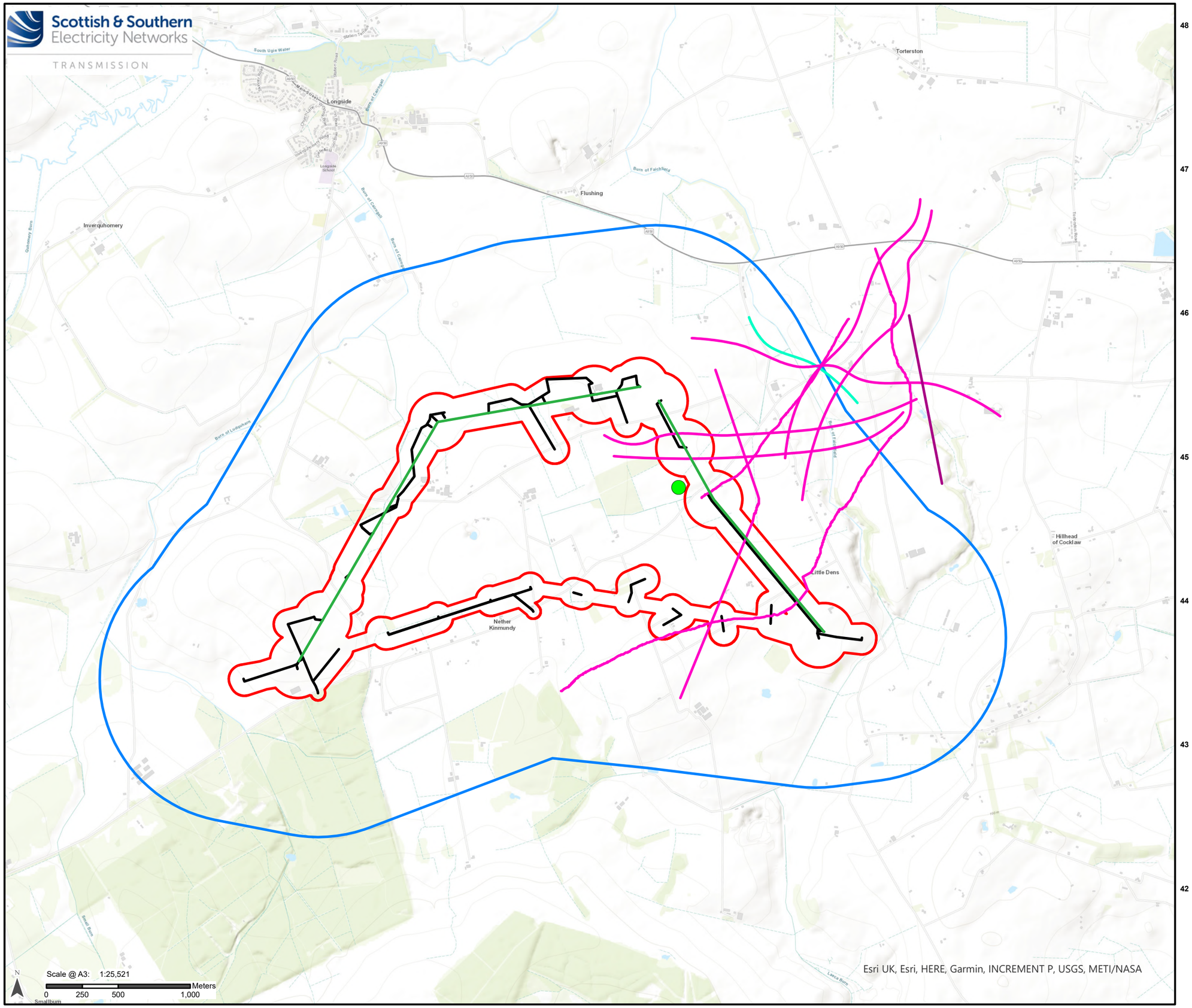
Title:

Figure 1 HRA: Relevant European Sites Tie In

Drawn by: GS Date: 12/11/2025

Drawing: 70121009-NEW-DEER-OHL-WSP-001

Scottish & Southern Electricity Networks
TRANSMISSION



Scale @ A3: 1:25,521
0 250 500 1,000 Meters

Legend

- Site Boundary
- Access Tracks
- Proposed Overhead Line
- 1km Zone Of Influence for Foraging Geese

Location of Foraging Goose Flock

- Pink-footed Goose x38

Flight Activity for Relevant Qualifying Species

- Greylag Goose (1 Flight)
- Pink-footed Goose (8 Flights)
- Whooper Swan (1 Flight)

Project No: LT000052
Project: Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Tie-In

Title:
Figure 2 HRA: Flight Activity and Foraging Locations for Relevant Qualifying Species.

Drawn by: GS Date: 12/11/2025

Drawing: 70121009-NEW-DEER-OHL-WSP-002