Scottish & Southern Electricity Networks
TRANSMISSION

Glendye Wind Farm Overhead Line Grid Connection

Environmental Impact Assessment (EIA)

Volume 4 | Appendix 1.1

Permitted Development Works Appraisal

October 2025

APPENDIX 1.1 – PERMITTED DEVELOPMENT WORKS APPRAISAL

Annexes

1. INTRODUCTION

1.1 Overview

1.1.1 As noted within **Chapter 1 – Introduction** of this EIA Report, there would be two short sections of underground cable (UGC) at either end of the proposed overhead line (OHL) to complete the connection with Glendye Wind Farm on-site Substation in the west and Fetteresso Substation in the east.

1.1.2 The proposed works, hereafter referred to as the 'Proposed UGC', would fall under the Applicant's permitted development rights under Class 40 1(a) of The Town and Country Planning (General Permitted Development) (Scotland) Order 1992. As such these works do not require specific express consent and do not therefore form part of the 'Proposed Development' for which Section 37 consent is sought. The appraisal of potential effects from the installation of each section of the Proposed UGC are, however, included in this appendix to support the assessment of 'intra project' cumulative effects within the technical chapters of the EIA Report.

1.1.3 As illustrated on **Figure 3.1a-e: The Proposed Development,** the works pertaining to the Proposed UGC would include:

- Approximately 660 m of single circuit installation 132 kV UGC between the consented Glendye Wind Farm on-site substation and the proposed OHL ('the western section'); and
- Approximately 519 m of single circuit installation 132 kV UGC between the proposed OHL and Fetteresso substation ('the eastern section').

1.1.4 The construction activities anticipated for the Proposed UGC are outlined within **Chapter 3 - The Proposed Development**, in particular **Section 3.10**.

1.2 Scope of Appraisal

1.2.1 The appraisal of potential effects associated with the Proposed UGC has focussed on those topics included in the EIA Report which are of most relevance to potential effects associated with an UGC, namely:

- Landscape and Visual;
- Ecology;
- Ornithology;
- Geology, Hydrology and Hydrogeology;
- Cultural Heritage; and
- Forestry.

1.2.2 Potential effects on traffic and transport and socio-economics, tourism and recreation are not included within this appendix, as it is deemed that any additional effects of the Proposed UGC over and above those associated with the Proposed Development would be negligible. Furthermore, the mitigation measures applicable to these topic areas (e.g. provision of a Construction Traffic Management Plan or Outdoor Access Management Plan) would apply equally to the Proposed UGC.

1.2.3 For the topics that are included within this appraisal, any mitigation measures specific to the Proposed UGC are detailed within the relevant chapter of this appraisal and summarised in **Annex A: Permitted Development Schedule of Mitigation**.

1.2.4 Each technical chapter of the EIA Report establishes the baseline information, appraisal methodology (including associated guidance) and study area associated with each topic, with the chapters addressing the effects of the Proposed Development which are subject to consent under section 37 of the Electricity Act 1989 (i.e. the 132 kV single circuit OHL) and deemed planning under section 57(2) of the Town and Country Planning (Scotland)

Act 1997 (as amended). The technical chapters, and their supporting figures and appendices, should be referred to as part of this appraisal, and are referenced accordingly within this appendix.

2. LANDSCAPE AND VISUAL

2.1 Overview

2.1.1 This section reports on the findings of an appraisal on the potential landscape and visual effects of the two short sections of Proposed UGC. The appraisal is limited to effects during the construction period, since it is anticipated that cable trenches and temporary access tracks would be reinstated upon completion. Reference should be made to **Chapter 6: Landscape and Visual** of the EIA Report for a more detailed description of the landscape and visual baseline and assessment of effects, in relation to the Proposed Development.

2.2 Baseline Conditions and Potential Effects

Landscape

2.2.1 The proposed western section of UGC that connects with Glendye Wind Farm on-site Substation would be located within Local Landscape Zone (LLZ) 1: Upland Plateau and Clachnaben and Forest of Birse Special Landscape Area (SLA). The eastern section of UGC that connects with Fetteresso substation would be set within LLZ 2: Forested Foothills. Both LLZ 1 and LLZ 2 fall within Landscape Character Type (LCT 29): Summits and Plateaux - Aberdeenshire (see **Chapter 6** for baseline description and characteristics of the LLZ and the LCT, and **Figure 6.2: Designated and Protected Landscapes**).

2.2.2 Locally, the landscape around the proposed western section of UGC is dominated by broad, rolling moorlands, with a remote feel and character due to the enclosure of the surrounding hills within LLZ 1 and the SLA. The construction of and presence of the consented Glendye Wind Farm would reduce this sense of remoteness locally.

2.2.3 The construction works associated with the Proposed UGC would lead to a temporary increase in movement and activity, forming a new short-term focus within the moorlands which could potentially reduce the sense of remoteness. Although this may affect the special qualities of the uninterrupted natural landcover of the SLA, it would be seen in the context of the construction of the Glendye Wind Farm and the OHL elements of the grid connection (the Proposed Development). In this context, the temporary construction activity associated with the western section of Proposed UGC is considered unlikely to increase effects on the landscape and special qualities of the Clachnaben and Forest of Birse SLA or key characteristics of LLZ 1. Consequently, effects on this SLA and LLZ 1 are anticipated to have a **Minor** (and not significant) effect locally and a **Negligible** effect elsewhere within LLZ 1 and Clachnaben and Forest of Birse SLA during construction.

2.2.4 The eastern section of the Proposed UGC would cross through the felled coniferous forest area of LLZ 2, which is influenced by ongoing felling operations which reduce somewhat the landscape sensitivity to construction activity of this type.

2.2.5 Construction activities around the eastern section of the Proposed UGC would resemble forestry management operations already taking place within LLZ 2. The eastern section of Proposed UGC is unlikely to change the intrinsic, relatively modified landscape character of this LLZ. Therefore, localised **Minor** (and not significant) effects on landscape are anticipated for LLZ 2 during construction of the Proposed UGC, with **Negligible** effects elsewhere.

Visual

2.2.6 **Figure 6.4a-e: Potential Visual Receptors with ZTV** of the EIA Report shows the visual receptors identified in relation to the Proposed Development.

2.2.7 The western section of Proposed UGC would be well contained by local landform and is of sufficient distance from visual receptors to not be a noticeable feature, particularly when viewed in the context of works associated with the Proposed Development, Glendye Wind Farm and on-site substation. The nearest visual receptors are the Outdoor Receptor at Cairn o' Mount (O1) and the Route Receptor of the B974 (R1), both situated approximately 3 km to the east.

2.2.8 The eastern section of the Proposed UGC would be well contained by a combination of landform and forestry, limiting any potential effect on visual amenity to visual receptors in the wider area, all of which are over 1 km in distance from the proposed works.

2.2.9 A **Negligible** visual effect is anticipated for all visual receptors during construction, in relation to both sections of the Proposed UGC.

2.3 Embedded Mitigation

2.3.1 Following commissioning of the Proposed UGC, it is anticipated that all areas disturbed during construction would be reinstated on the basis that reinstatement would form part of the contract obligations for the Principal Contractor (and would include the removal of all temporary access tracks and the re-vegetation of disturbed areas to recreate the former habitat as far as possible).

2.3.2 No additional mitigation over and above the embedded mitigation is required.

3. ECOLOGY

3.1 Overview

3.1.1 This section reports on the findings of an appraisal on the potential ecological effects of the two short sections of Proposed UGC during construction and operation. Reference should be made to **Chapter 7: Ecology** of the EIA Report for a more detailed description of the baseline conditions and assessment of effects in relation to the Proposed Development.

3.2 Baseline Conditions

3.2.1 The Proposed UGC sections would not directly interact with any sites designated for nature conservation.

3.2.2 The River Dee Special Area of Conservation (SAC) is situated approximately 2.1 km north of the Proposed UGC at its closest point. The SAC is designated for otter *(Lutra lutra)*, freshwater pearl mussel (*Margaritifera margaritafera),* and Atlantic Salmon *(Salmo salar)*. The western section of the Proposed UGC would be hydrologically connected with the SAC via the Water of Charr and its tributaries.

3.2.3 Other designated sites within 10 km of the Proposed UGC include the Loch of Lumgair Site of Special Scientific Interest (SSSI) located approximately 7 km southeast, Gannochy Gorge SSSI located approximately 8 km southwest, and Eslie Moss SSSI located approximately 10 km to the south.

3.2.4 A further four sites of local importance for nature conservation are located within 5 km of the Proposed UGC sections, including;

- Strathfinella Local Nature Conservation Site (LNCS) located approximately 8.3 km to the south;
- Elfhill LNCS approximately 1.5 km to the northwest;
- Mergie LNCS located approximately 2.3 km to the northeast; and
- Feughside LNCS located approximately 4.5 km to the north.

3.2.5 Summaries of the citations for each designation are given in **Table 7.5** and **Table 7.6** in **Chapter 7** and their locations shown on **Figure 7.1: Sites Designated for Nature Conservation**.

3.2.6 The Proposed UGC sections would not interact with any areas of woodland listed within the Ancient Woodland Inventory (AWI). A summary of AWI sites in the wider area is provided in **Table 7.7, Chapter 7**.

3.2.7 Surveys undertaken to characterise the ecological baseline within the vicinity of the Proposed UGC sections included UKHab surveys to categorise the types of habitats present, National Vegetation Classification (NVC) surveys of priority and sensitive habitats, identification of potential groundwater-dependent terrestrial ecosystems (GWDTEs) and protected species surveys focusing on badger, red squirrel, water vole, otter, pine marten, Scottish wildcat and structures with potential to support roosting bats (see **Appendix 7.2: UKHab and NVC Survey Report** and **Appendix 7.5: Protected Species Survey Report**).

3.2.8 Habitats recorded within 250 m of the western section of Proposed UGC included:

- f1a5 Blanket bog – most of the blanket bog recorded within a 250 m survey buffer of the Proposed UGC was considered to be modified through grazing and drainage, and likely other historic management practices such as burning, resulting in some areas where the sward has become impoverished;
- f1a6 Degraded blanket bog – found in open habitats, often adjacent to or in a fine scale mosaic with blanket bog. This habitat has an impoverished *Sphagnum* bryophyte layer and is typically drier than non-degraded blanket bog habitat. Many areas of this habitat found within the 250 m survey buffer are dominated by purple moor-grass (*Molinia caerulea*);

- f2c Upland flushes, fens and swamps – found infrequently and limited to small linear flushes along the banks of the Water of Charr;
- g1b6 – Upland acid grassland – located most prominently to the south of the western section of the Proposed UGC, and on the banks of the Water of Charr;
- h1b5 Dry heaths; upland – dominated by heather, this habitat is limited to small pockets on drier knolls; and
- r2a rivers and lakes – the Water of Charr watercourse is located within approximately 140 m of the western section of the Proposed UGC at its closest point. Occasional small bog pools are located throughout mire and wet heath habitats.

3.2.9 Habitats recorded within 250 m of the eastern section of Proposed UGC works included:

- g1 Acid grassland – a small section of acid grassland to the north of the existing Fetteresso substation.
- h1 Dwarf shrub heath – found in a corridor heading south from Fetteresso substation, following an existing OHL.
- w2c Other coniferous woodland – the most dominant land usage in the area, surrounding the eastern section of Proposed UGC Development.

3.2.10 Protected species surveys undertaken within 250 m of the proposed sections of UGC works identified signs of or structures with potential for supporting otter. Otter habitat is present along the banks of the Water of Charr, where a holt and prints were found within close proximity of the western section of the Proposed UGC. Habitats surrounding the eastern section of Proposed UGC were identified as suitable for other protected species including; badger *(Meles meles)*, pine marten *(Martes martes)*, red squirrel *(Sciurus vulgaris)*, a number of bat species and Scottish wildcat *(Felis silvestris)*.

3.3 Potential Effects

3.3.1 The potential effects of the construction and operational phases on ecological features as a result of the Proposed UGC works include:

- Potential effects on the River Dee SAC due to potential for hydrological pollution during the construction phase;
- Direct and indirect effects on sensitive habitats during the construction phase extending into the operational phase (through potential drying effects upon neighbouring wetland habitats);
- Disturbance and loss of habitat during the construction phase for protected mammal species, such as otter, Scottish wildcat, bats and badger; and
- Potential effects on fish and / or other aquatic habitat and species during the construction phase where works are located in the vicinity of watercourses.

3.3.2 A Shadow Habitats Regulations Appraisal (sHRA) is included within **Appendix 7.7** of this EIA Report which considers the potential for any likely significant effects on the qualifying features of the River Dee SAC. The Shadow HRA concludes that, with the implementation of mitigation measures embedded into the design of the Proposed Development, no conservation objectives of the River Dee SAC would be undermined, either alone or in combination with other projects. The Proposed UGC works were included and appraised as part of the Shadow HRA and therefore the conclusions reached in **Appendix 7.7** should be referred to in relation to the Proposed UGC and the River Dee SAC (as well as other European designated sites).

3.3.3 The habitats that would be disturbed due to groundworks associated with construction of the Proposed UGC would include areas of dry heath upland, blanket bog and degraded blanket bog in the west, and areas of dwarf shrub heath in the east.

3.4 Embedded Mitigation

3.4.1 The embedded mitigation relevant to ecology is detailed in **Section 7.11** of **Chapter 7** and includes, but is not limited to:

- adherence to the Applicant's General Environmental Management Plans (GEMPs) (Appendix 3.3);
- Adherence to the Applicant's Species Protection Plans (SPPs) (Appendix 3.4) for relevant species e.g. fresh water pearl mussel, otter, badger, water vole, bats, red squirrel, Scottish wildcat and pine marten;
- Development of a site-specific Construction and Environmental Management Plan (CEMP); and
- Employment of an Environmental Clerk of Works (ECoW) throughout construction of the Proposed Development.

3.4.2 Pre-construction surveys, as described in **Section 7.9** of **Chapter 7**, would be carried out prior to works commencing, in line with the SPPs, to identify any signs or shelters of protected species within proximity to the Proposed UGC.

3.4.3 The cable trench excavation would be kept free from water by use of mobile pumps, with water pumped to a suitable location as agreed onsite by the ECoW and in accordance with the GEMPs. Open sections of cable trench would be ramped to prevent mammal entrapment, the design and the frequency of mammal exit ramps would be detailed within the CEMP. Embedded mitigation to reduce disturbance of excavated peat is outlined in the GEMPs and the Peat Management Plan (PMP) (**Appendix 9.2**).

3.4.4 The GEMPs include the requirement for careful removal and temporary storage of vegetated turves, removal and storage of soil, sub-soil and peat layers separately to avoid mixing, replacement of excavated horizons in the correct order, short timescales between lifting and replacement of turves and ensuring stored turves are kept in good condition (including watering when weather conditions could lead to desiccation).

3.4.5 Upon successful installation of the Proposed UGC, all temporary works would be removed and the area reinstated. Due to the temporary nature of the Proposed UGC construction works and with the full implementation of the CEMP, GEMPs and PMP, habitats are likely to recover to baseline conditions within two years of the commencement of construction.

3.4.6 To minimise potential drying effects in wetland habitats, the cables will be laid on stone and surrounded by sands for thermal regulation within a geotextile wrap. This will absorb or dissipate any heat generated, and along with the natural saturation levels in the peat, in combination with other mitigation and assumptions detailed above, any heat will be readily transferred and lost without resulting in a drying effect on the surrounding peat.

3.5 Conclusion

3.5.1 With the implementation of mitigation measures embedded into the design of the Proposed UGC, no significant effects on ecology are predicted during construction and operation.

4. ORNITHOLOGY

4.1 Overview

4.1.1 This section reports on the findings of an appraisal on the potential effects on ornithology as a result of the installation of the Proposed UGC. Reference should be made to **Chapter 8: Ornithology** of the EIA Report for a more detailed description of the baseline conditions and assessment of effects in relation to the Proposed Development.

4.2 Baseline Conditions

4.2.1 Information gathered during the desk study exercise identified one site of international importance (Fowlsheugh Special Protection Area (SPA), 9.9 km east) within 10 km of the Proposed UGC and a second (for long range species such as geese) within 20 km of the Proposed UGC, namely Montrose Basin SPA (19.7 km south). Summaries of the citations for each designation are given in **Table 8.6** of **Chapter 8** and their locations shown on **Figure 8.2: Designations.**

4.2.2 Ornithology surveys to characterise the baseline within proximity to the Proposed UGC were undertaken in conjunction with surveys for the Proposed Development. The survey areas for breeding raptors, divers, moorland breeding birds, black grouse and winter walkovers are summarised in **Section 8.5** of **Chapter 8** and detailed in **Appendix 8.1: Ornithology Baseline Report**. The survey areas included the Proposed UGC works plus appropriate buffers, as displayed on **Figure 8.1.1: VPs and Survey Areas**.

4.2.3 For the Proposed Development as a whole, a total of 47 bird species attributed with a conservation status, were recorded within approximately 2 km. 12 of the 47 bird species are listed as Annex 1 species, 17 were listed as Schedule 1, 39 were listed under the SBL, 22 as BoCC Red-listed, and 15 BoCC Amber-listed. Further details are provided in **Appendix 8.2: Ornithology Desk Study**.

4.3 Potential Effects

4.3.1 Potential effects on ornithological receptors associated with the construction and / or operation of the Proposed UGC works are:

- Loss of breeding or foraging habitat – temporary and localised habitat modification changes due to disturbance as a result of cable trench excavation; and
- Disturbance / displacement – temporary and localised disturbance of breeding birds and displacement of foraging birds from suitable habitats may occur, primarily during construction works, but also during operational maintenance works.

4.4 Embedded Mitigation

4.4.1 The embedded mitigation relevant to ornithology is detailed in **Sub-Sections 8.8.5 – 8.8.17** of **Chapter 8** and includes, but is not limited to;

- adherence to the Applicant's GEMPs (Appendix 3.3) and SPPs (Appendix 3.4);
- Development of a site-specific CEMP; and
- Employment of an ECoW, throughout construction of the Proposed Development.

4.4.2 The Applicant's SPP for breeding birds (**Appendix 3.4**) details the requirements for pre-construction surveys and a mitigation hierarchy to avoid or minimise effects on protected or priority bird species. A summary of the main points from the Bird SPP are provided below:

- Relevant local recorders e.g. North East Raptor Study Group (NERSG), will be contacted at the pre-construction phase for recent records of sensitive species that might be affected;

- Pre-construction surveys and monitoring will be undertaken by a suitably qualified ornithologist, including of suitable habitats up to 1 km either side of the LoD in accordance with current guidance;
- ECoW to include checks for protected bird species, including Schedule 1 birds and nests of all breeding birds, immediately prior to commencement of construction;
- Pre-construction environmental inductions would be given to all construction staff, including information on sensitive bird species and relevant legislation;
- Regular ongoing watching briefs for breeding birds will be undertaken across the construction areas during the breeding season (mid-March to end of August); and
- An emergency procedure would be implemented if breeding birds are encountered. All work would cease within 50 m (non-scheduled species) or the relevant maximum protection distance for scheduled species, and the ECoW would define any mitigation requirements in accordance with the bird SPP.

4.4.3 Should operational maintenance be required within the breeding bird season (March to August) pre-construction surveys will also be undertaken to prevent disturbance of breeding birds.

4.5 Conclusion

4.5.1 With the implementation of mitigation measures embedded into the design of the Proposed UGC, no significant effects on ornithology are predicted during construction and operation.

5. GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

5.1 Overview

5.1.1 This section reports on the findings of an appraisal on the potential effects on geology, hydrology and hydrogeology as a result of the installation of two short sections of Proposed UGC. Reference should be made to **Chapter 9: Geology, Hydrology and Hydrogeology** of the EIA Report for a more detailed description of the baseline conditions and assessment of effects in relation to the Proposed Development.

5.2 Baseline Conditions

5.2.1 The existing geology (including soils and peat resources), hydrogeology and hydrology have been characterised as part of the EIA. The study area considered in the EIA included the areas of the Proposed UGC.

5.2.2 The western section of the Proposed UGC is located within the catchment of the River Dee. Despite the Proposed UGC being located approximately 2.1 km from the boundary of the River Dee SAC, there is still potential for adverse impacts during the construction phase downstream through local watercourses.

5.2.3 The western section of the Proposed UGC would also pass through areas of Class 1 peatland as identified on NatureScot's Carbon and Peatland map 2016[1]. Class 1 peatland is considered nationally important carbon rich soil, deep peat and priority peatland habitat with high conservation and restoration value. Project specific peat depth probing and a project specific peatland condition survey has been undertaken, confirming that the western sections of the Proposed UGC would be located where peat typically <1m depth has been recorded.

5.2.4 A detailed assessment of the peat characteristics, potential for peat landslide and measures that would be used to safeguard carbon rich soils and peat is given in **Appendix 9.1: Peat Landslide Risk Assessment** and **Appendix 9.2: Peat Management Plan** of the EIA and summarised in **Sections 9.6 and 9.7** of **Chapter 9**.

5.2.5 The eastern section of the Proposed UGC is absent of any superficial peat deposits, with project specific peat depth probing identifying small discrete areas of peat and glacial till.

5.2.6 All of Scotland's groundwater bodies have been designated as a Drinking Water Protected Area (DWPA) under the Water Environment (Drinking Water Protected Area) (Scotland) Order 2013[2] and require protection for their current use or future potential as drinking water resources (as noted in **Section 9.6 of Chapter 9**).

5.2.7 As noted in **Appendix 9.5: Private Water Supply Assessment**, in accordance with SEPA Guidance[3], a Private Water Supply (PWS) source would be considered potentially at risk during construction of the Proposed Development if;

- A PWS source is located within 10 m of any element of the Proposed Development;
- A spring fed or groundwater source is located within 100 m of excavations less than 1 m deep (such as access tracks);
- A spring fed or groundwater source is located within 250 m of excavations greater than 1 m deep (such pole foundations); and / or
- A stream or surface water fed abstraction is located within the same surface water catchment and downstream of the Proposed Development.

[1] Scottish Natural Heritage (now NatureScot), Carbon and Peatland 2016 Map, available at https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/ [Accessed May 2025]
[2] The Water Environment (Drinking Water Protected Areas) (Scotland) Order 2013 (online) available at: https://www.legislation.gov.uk/ssi/2013/29/made [last accessed 11/09/2025]
[3] Scottish Environment Protection Agency (2024) Guidance on Assessing the Impacts of Developments on Groundwater Abstractions

5.2.8 PWS associated with the Proposed Development are noted in Section 3 of the **Appendix 9.5**. All PWS locations are situated to the south and east of the Proposed Development and outwith the criteria listed above, therefore it is not anticipated that the Proposed UGC would have any impact on the PWS sources identified.

5.3 Potential Effects

5.3.1 During the construction phase, the Proposed UGC has the potential to result in the following effects without appropriate controls or mitigation:

- adverse effects on carbon rich soils and peat through inappropriate handling and safeguarding;
- an adverse effect on surface water or groundwater quality from accidental pollution; including fuel, oil, concrete or other hazardous substances;
- potential adverse change of surface and groundwater flow paths and hydrological contribution to areas of peat and GWDTEs, water dependent habitat and water supplies;
- increased flood risk to areas downstream of the Proposed UGC, through increased surface water runoff; and
- potential pollution impacts and adverse effects to sensitive receptors; including private water supplies, the River Dee SAC and Scottish Water DWPA.

5.4 Embedded Mitigation

5.4.1 Embedded mitigation measures for geology, hydrology and hydrogeology, such as complying with best practice, micrositing provisions, presence of an ECoW and adherence to a site-specific detailed CEMP are included in **Section 9.8** of **Chapter 9**.

5.4.2 The Applicant has established best practice construction techniques and procedures that have been agreed with statutory consultees, including Scottish Environment Protection Agency (SEPA) and NatureScot. These are set out within Applicant's GEMPs (see **Appendix 3.5**). Elements of the Proposed UGC would be constructed in accordance with these plans.

5.4.3 In addition, the works would also be undertaken in accordance with good practice guidance, including UK and Scottish guidance outlined within the following documents:

- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)[4] – A Practical Guide (Version 9.4), SEPA, July 2024;
- C532 Control of Water Pollution from Construction Sites (2001)[5];
- C648 Control of Water Pollution from Linear Construction Projects – Technical Guidance (2006)[6];
- C741 Environmental Good Practice on Site (2015)[7];
- C753 The SuDS Manual (2015)[8];
- Engineering in the Water Environment: Good Practice Guide – River Crossings (2010)[9]; and
- Engineering in the Water Environment: Good Practice Guide – Sediment Management (2010)[10].

[4] Scottish Environment Protection Agency (2024) The Water Environment (Controlled Activities) (Scotland) Regulations. A Practical Guide v9.
[5] Construction Industry Research and Information Association (2001) Control of Water Pollution from Construction Sites C532
[6] Construction Industry Research and Information Association (2006) Control of Water Pollution from Linear Construction Projects – Technical Guidance
[7] Construction Industry Research and Information Association (2015) Environmental Good Practice on Site C741
[8] Construction Industry Research and Information Association (2015) The SuDS Manual C753
[9] Scottish Environment Protection Agency (2010) Engineering in the Water Environment: Good Practice Guide – River Crossings
[10] Scottish Environment Protection Agency (2010) Engineering in the Water Environment: Good Practice Guide – Sediment Management

5.4.4 The Guidance for Pollution Prevention (GPPs)) identified below are the principal guidance documents[11] for preventing water pollution and erosion from construction activities. In addition to the above-listed good practice guidance, these would also be used and applied during the construction phase of the Proposed UGC works:

- GPP01 Understanding your environmental responsibilities – good environmental practices;
- GPP02 Above Ground Oil Storage Tanks;
- GPP03 Use and Design of Oil Separators in Surface Water Drainage Systems;
- GPP05 Works and Maintenance in or near Water;
- GPP06 Working at Construction and Demolition Sites;
- GPP08 Safe Storage and Disposal of Used Oils;
- GPP13 Vehicle Washing and Cleaning;
- GPP21 Pollution Incident Response Plans; and
- GPP22 Dealing with Spills.

Installation of Underground Cables

5.4.5 Underground cable ducts would be installed progressively. The length of time the cable trench would remain open would be minimised. The cable trench would be opened using a tracked excavator. Arisings from the trench would be temporarily stored adjacent to the trench ready for use in backfilling and restoration. The temporary stores of arisings would be configured to minimise the potential for erosion and sedimentation. Silt fences, cut-off drains and temporary cover of the arising stockpiles will be deployed as directed by the ECoW.

5.4.6 Vegetation turves would be stored separately to the spoil arisings. Once the cable has been installed in the cable trench, arisings would be used to restore the trench and backfilled in the same order that the material was excavated. Turves would then be replaced on the backfilled trench.

5.4.7 If directed by the ECoW, low permeability barriers would be installed in the trench to prevent the trench forming a preferential water flow path. Where ground conditions are saturated a geotextile wrap would be used within the trench, to ensure there is no loss of the sand or stone cable surround to the adjacent ground.

5.4.8 Where required, localised temporary pumping of water from the cable trench would be undertaken to maintain safe working conditions and to facilitate cable duct installation. Pumping arrangements would be agreed and supervised by the ECoW. Pumping would cease once the cable duct has been installed.

5.4.9 Following completion of cable duct installation, a cable team will install (pull) the cables through the ducts. Safeguards detailed above, would be used to control pollution, runoff, erosion and sedimentation, with deployment as required.

Watercourse Crossings

5.4.10 All excavated material from the Proposed UGC trench would be carefully stored a minimum of 10 m from any watercourses, with soil mounds and restoration depths no higher than 2 m. Water would be prevented, as far as possible, from entering excavations such as the Proposed UGC trenches, through the use of appropriate cut-off drainage.

5.4.11 The method and approach for installing the Proposed UGC duct beneath watercourses would be determined by the appointed Principal Contractor as part of the project detailed design. It is likely that the ducts would be installed by either open cut or Horizontal Directional Drilling (HDD). As above, whichever approach is preferred, it would be undertaken in accordance with industry good practice guidance and in accordance with the

[11] NetRegs, Guidance for Pollution Prevention (GPP) documents, available online at Guidance for Pollution Prevention (GPP) documents https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/ [Accessed August 2025]

requirements of the Controlled Activity Regulations[3]. Where necessary, authorisation for the watercourse crossings and construction methodology would be agreed with SEPA and all works would be supervised by the project ECoW.

5.5 Conclusion

5.5.1 With the implementation of the proposed safeguards embedded in its design, the magnitude of any potential effects of the Proposed UGC on geology, hydrology and hydrogeology would be negligible during the construction phase.

5.5.2 Notwithstanding this, a monitoring programme is proposed to monitor water quality in principal watercourses that are potentially at risk during construction of the Proposed UGC, without the adherence of best practice.

5.5.3 No significant residual effects on soils (inc. peat), geology, surface water or groundwater receptors, including designated water dependent sites and PWS sources, are predicted during the construction and operation of the Proposed UGC.

6. CULTURAL HERITAGE

6.1 Overview

6.1.1 This section reports on the findings of an appraisal on the potential effects on cultural heritage from the installation of two short sections of Proposed UGC. Reference should be made to **Chapter 10: Cultural Heritage** of the EIA Report for a more detailed description of the baseline conditions and assessment of effects in relation to the Proposed Development.

6.2 Baseline Conditions

6.2.1 There would be no Scheduled Monuments, World Heritage Sites, Conservation Areas, Inventory Garden and Designed Landscapes, Inventory Historic Battlefield's or recorded cultural heritage assets located within close proximity to either section of Proposed UGC. Assets in the wider area and their sensitivity can be seen on **Figure 10.1a-c: Cultural Heritage: Inner Study Area,** and in **Appendix 10.1: Cultural Heritage Assets in the Inner Study Area.**

6.3 Potential Effects

6.3.1 Taking account of the findings of the desk-based assessment and field survey, potential effects on cultural heritage associated with the construction and/or operation of the Proposed UGC include the following:

- Physical disturbance of known hitherto undiscovered sites or features, including unforeseen buried remains of archaeological interest.

6.3.2 Direct (physical) effects on cultural heritage assets are most likely to arise from ground-disturbing activities that occur during Proposed UGC construction works including open-cut trench or HDD techniques. These may damage, and possibly destroy, cultural heritage remains. Direct effects may also occur by above-ground disturbance, for example as a result of vehicle movement over cultural heritage features, or storage of construction materials or machinery upon them. Direct effects on cultural heritage assets are normally adverse, permanent, and irreversible.

6.3.3 Any ground-breaking activities associated with the Proposed UGC Development have the potential to disturb or destroy any buried, hitherto unrecorded buried archaeological remains present within affected areas.

6.4 Mitigation

6.4.1 No known cultural heritage receptors are located within close proximity of the Proposed UGC and there remains a very low potential for unexpected discoveries of archaeological significance. Therefore, there are no requirements for archaeological investigations or watching briefs for construction of the Proposed UGC within previously undisturbed ground. It is not anticipated that an Archaeological Clerk of Works would be required to oversee this part of the Proposed Development.

6.4.2 Formal arrangements would be put in place by the Contractor for any unforeseen archaeological discoveries made by the Contractor, to be reported to the Aberdeenshire Council Historic Environment Team. These arrangements would require any unexpected discoveries to be assessed and would make clear the legal responsibilities placed upon those who make unexpected discoveries of archaeological significance. These arrangements would be included in the Proposed Development CEMP for implementation during construction and would be explained in toolbox talks.

6.5 Conclusion

6.5.1 No significant effects on cultural heritage are predicted during the construction and operation of the Proposed UGC.

7. FORESTRY

7.1 Overview

7.1.1 This section reports on the findings of an appraisal on the potential effects on forestry from the installation of two short sections of Proposed UGC. Reference should be made to **Chapter 11: Forestry** of the EIA Report for a more detailed description of the baseline conditions and assessment of effects in relation to the Proposed Development.

7.2 Baseline Conditions

7.2.1 There are no forests or woodlands present in the vicinity of the western extent of the Proposed UGC Development.

7.2.2 The eastern extent of the Proposed UGC would be located within Fetteresso Forest, which is managed by Forestry Land Scotland (FLS) as part of the National Forest Estate, forming part of Mearns Forest.

7.3 Potential Effects

7.3.1 Typically, an Operational Corridor (OC) is required to be created and maintained for the installation of an OHL or UGC. In the case of the eastern section of the Proposed UGC (within Fetteresso Forest), no additional felling is anticipated to be required over and above what has been predicted for the Proposed Development as a whole. That is because the Proposed UGC is partly within the OC already established for the Proposed Development, and is also partly routed through an existing OC / wayleaves that are in place for existing electricity transmission infrastructure.

7.4 Mitigation

7.4.1 Embedded mitigation and best practice measures for forestry can be found in **Section 11.8** in **Chapter 11 Forestry**.

7.5 Conclusion

7.5.1 No significant effect on forestry is anticipated as a result of the Proposed UGC.

8. CONCLUSION

8.1 Overview

8.1.1 This Appendix appraises the potential environmental effects associated with the Glendye Wind Farm OHL Grid Connection's Proposed UGC. The works include approximately 660 m of single circuit installation 132 kV UGC between the consented Glendye Wind Farm on-site substation and the proposed OHL ('the western section'), and approximately 519 m of single circuit installation 132 kV UGC between the proposed OHL and Fetteresso substation ('the eastern section').

8.1.2 The Proposed UGC works would fall under the Applicant's permitted development rights under Class 40 1(a) of The Town and Country Planning (General Permitted Development) (Scotland) Order 1992). These works do not therefore require specific express consent. However, this appraisal is produced to support an assessment of cumulative effects within the EIA Report (i.e. in respect of the development that requires Section 37 consent).

8.1.3 The appraisal of potential effects associated with the Proposed UGC undertaken within this Appendix has focussed on the following topics:

- Landscape and Visual;
- Ecology;
- Ornithology;
- Geology, Hydrology and Hydrogeology;
- Cultural Heritage; and
- Forestry.

8.1.4 With the implementation of embedded mitigation measures, which are detailed in **Annex A: Permitted Development Schedule of Mitigation,** no significant effects are predicted as a result of the Proposed UGC works.

ANNEX A – SCHEDULE OF MITIGATION

The purpose of this Annex is to provide a summary of mitigation measures proposed throughout **Appendix 1.1: Permitted Development Works Appraisal**, to minimise the potential effects of the permitted development elements of the Proposed Development on the receiving environment. **Table 1** provides this summary.

Table 1: Schedule of Mitigation Measures (Permitted Development)

Topic	Issue	Mitigation Reference	Embedded Mitigation / Monitoring Measure	Appendix 1.1 Reference	Responsibility
Landscape and Visual	Site Reinstatement	LV1	It is anticipated that all areas disturbed during construction would be reinstated. Reinstatement would form part of the contract obligations for the Principal Contractor and would include the removal of all temporary access tracks and the re-vegetation of disturbed areas to recreate the former habitat as far as possible.	2.3.1	Contractor
Ecology	Environmental Management	E1	All works would be carried out in accordance with the following General Environmental Management Plans (GEMPs) have been developed by the Applicant (**Appendix 3.3**) and Species Protection Plans (SPPs) have been developed by the Applicant and agreed with NatureScot (**Appendix 3.4**). The CEMP would also reference the aforementioned GEMPs and SPPs. The implementation of the CEMP would be managed on site by a suitably qualified and experienced Environmental Clerk of Works (ECoW), with support from other environmental professionals as required. SSEN Transmission would undertake monthly inspections and quarterly audits to ensure compliance with the CEMP.	3.4.1	The Applicant / Contractor / ECoW
	Pre-construction Surveys	E2	Pre-construction surveys would be carried out prior to works commencing, in line with the SPPs, to identify any signs or shelters of protected species within proximity to the Proposed UGC.	3.4.2	Contractor / ECoW
	Trench Excavation	E3	The cable trench excavation would be kept free from water by use of mobile pumps, with water pumped to a suitable location as agreed onsite by the ECoW and in accordance with the GEMPs. Open sections of cable trench would be ramped to prevent mammal entrapment, the design and the frequency of mammal exit ramps would be detailed within the CEMP. Further embedded mitigation to reduce disturbance of excavated peat is outlined in the GEMPs and the Peat Management Plan (PMP) (**Appendix 9.2**).	3.4.3	Contractor / ECoW

	Embedded Mitigation	E4	To minimise potential drying effects in wetland habitats, the cables will be laid on stone and surrounded by sands for thermal regulation within a geotextile wrap. This will absorb or dissipate any heat generated, and along with the natural saturation levels in the peat, in combination with other mitigation and assumptions detailed above, any heat will be readily transferred and lost without resulting in a drying effect on the surrounding peat.	3.4.6	Contractor / ECoW
	Freshwater Pearl Mussel	E5	The following mitigation measures are proposed for Freshwater Pearl Mussel (FWPM): • A pre-construction survey would be conducted by a licenced surveyor(s) for FWPM following the NatureScot shallow water survey methodology[1]. The survey would cover at minimum the area of the watercourse crossing in addition to a 100 m upstream and 500 m downstream buffer. • Baseline fully quantitative electrofishing would be conducted on watercourses subject to watercourse crossings within the LoD, to clarify the absence of Atlantic salmon and to quantify the salmonid host population in line with Marine Scotland Science Guidance[2]. • A fish habitat survey would be conducted within the LoD and 100 m downstream of all watercourse crossing locations to identify any potential areas suitable for salmonid spawning. Where these are identified locations of potential fords and / or any instream works should be sited away from them. • No instream works would take place during sensitive salmonid periods from 30th September to 31st May, this is inclusive of the	Appendix 7.7: Shadow HRA	SSEN Transmission / Contractor / ECoW

[1] NatureScot. (2018). Freshwater Pearl Mussel Survey Protocol for use in site-specific projects. [Online] Available at: https://www.nature.scot/sites/default/files/2018-04/Freshwater-pearl-mussel-survey-protocol-for-use-in-site-specific-projects.pdf (last accessed 09/10/2025)

[2] Marine Scotland Science. (2021). Publication - Advice and guidance: Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines. [Online] Available at: Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines - gov.scot (last accessed 09/10/2025)

			salmonid spawning period (October to January in the Dee catchment) and the period where laid eggs match to alevins between March and May. Works may be able to take place out with this period where baseline surveys indicate habitat, and habitat immediately downstream, do not include substrate and flow types suitable to support salmonids at any life stage (including the presence of spawning substrates). Any works proposed to be conducted out with this period should be discussed and agreed with the local District Salmon Fishery Board. • As advised by the ECoW, a fish rescue would be conducted in the works area surrounding the watercourse crossings where deemed necessary, with barrier nets put in place for the duration of the watercourse crossing works, to prevent fish moving back into the area during construction works in close vicinity of sensitive riparian habitats.		
Ornithology	Environmental Management	O1	See E1.	4.4.1	The Applicant / Contractor / ECoW
	Protected Species Breeding Birds	O2	The Applicant's SPP for breeding birds (**Appendix 3.4**) details the requirements for pre-construction surveys and a mitigation hierarchy to avoid or minimise effects on protected or priority bird species. A summary of the main points from the Bird SPP are provided below: • Relevant local recorders e.g. North East Raptor Study Group (NERSG), will be contacted at the pre-construction phase for recent records of sensitive species that might be affected; • Pre-construction surveys and monitoring will be undertaken by a suitably qualified ornithologist, including	4.4.2	The Applicant / Contractor / ECoW

			of suitable habitats up to 1 km either side of the LoD in accordance with current guidance; • ECoW to include checks for protected bird species, including Schedule 1 birds and nests of all breeding birds, immediately prior to commencement of construction; • Pre-construction environmental inductions would be given to all construction staff, including information on sensitive bird species and relevant legislation; • Regular ongoing watching briefs for breeding birds will be undertaken across the construction areas during the breeding season (mid-March to end of August); and • An emergency procedure would be implemented if breeding birds are encountered. All work would cease within 50 m (non-scheduled species) or the relevant maximum protection distance for scheduled species, and the ECoW would define any mitigation requirements in accordance with the bird SPP.		
		O3	Should operational maintenance be required within the breeding bird season (March to August) pre-construction surveys will also be undertaken to prevent disturbance of breeding birds.	4.4.3	The Applicant / ECoW
Geology, Hydrology and Hydrogeology	Best Practice Guidance	GH1	General and embedded mitigation measures for geology, hydrology and hydrogeology, such as complying with best practice, micrositing provisions, presence of an ECoW and adherence to a site-specific detailed CEMP are included in **Section 9.8** of **Chapter 9**. In addition, the works would be undertaken in accordance with relevant good practice guidance and Guidance for Pollution Prevention (GPPs).	5.4.1 – 5.4.4	The Applicant / Contractor / ECoW

	Installation of Underground Cables	GH2	Underground cable ducts would be installed progressively. The length of time the cable trench would remain open would be minimised. The cable trench would be opened using a tracked excavator. Arisings from the trench would be temporarily stored adjacent to the trench ready for use in backfilling and restoration. The temporary stores of arisings would be configured to minimise the potential for erosion and sedimentation. Silt fences, cut-off drains and temporary cover of the arising stockpiles will be deployed as directed by the ECoW. Vegetation turves would be stored separately to the spoil arisings. Once the cable has been installed in the cable trench, arisings would be used to restore the trench and backfilled in the same order that the material was excavated. Turves would then be replaced on the backfilled trench. If directed by the ECoW, low permeability barriers would be installed in the trench to prevent the trench forming a preferential water flow path. Where ground conditions are saturated a geotextile wrap would be used within the trench, to ensure there is no loss of the sand or stone cable surround to the adjacent ground. Where required, localised temporary pumping of water from the cable trench would be undertaken to maintain safe working conditions and to facilitate cable duct installation. Pumping arrangements would be agreed and supervised by the ECoW. Pumping would cease once the cable duct has been installed. Following completion of cable duct installation, a cable team will install (pull) the cables through the ducts. Safeguards detailed above, would be used to control pollution, runoff, erosion and sedimentation, with deployment as required.	5.4.5 – 5.4.9	Contractor / ECoW
	Watercourse Crossings	GH3	All excavated material from the Proposed UGC trench would be carefully stored a minimum of 10 m from any watercourses, with soil mounds and restoration depths no higher than 2 m. Water would be prevented, as far as possible, from entering excavations such as the Proposed UGC trenches, through the use of appropriate cut-off drainage.	5.4.10 – 5.4.11	Contractor / ECoW

			The method and approach for installing the Proposed UGC duct beneath watercourses would be determined by the appointed Principal Contractor as part of the project detailed design. It is likely that the ducts would be installed by either open cut or Horizontal Directional Drilling (HDD). As above, whichever approach is preferred, it would be undertaken in accordance with industry good practice guidance and in accordance with the requirements of the Controlled Activity Regulations. Where necessary, authorisation for the watercourse crossings and construction methodology would be agreed with SEPA and all works would be supervised by the project ECoW.		
Cultural Heritage	Unforeseen Archaeological Discoveries	CH1	Formal arrangements would be put in place by the Contractor for any unforeseen archaeological discoveries made by the Contractor to be reported to the Aberdeenshire Council Historic Environment Team.	6.4.2	Contractor
Forestry	General and Embedded Mitigation	F1	Embedded mitigation and best practice measures for forestry can be found in **Section 11.8** in **Chapter 11 Forestry**.	7.4.1	Contractor / The Applicant