Scottish & Southern Electricity Networks
TRANSMISSION

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Environmental

General Environmental Management Plan (GEMP) – Working in Sensitive Habitats

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1 Working in Peatland and Sensitive Habitats

1.1 Introduction

1.1.1 This General Environmental Management Plan concentrates on sensitive habitats associated with Peat, Blanket Bog, Wet Heath and Dry Heath habitats.

1.1.2 Section 3 of this General Environmental Management Plan includes guidance specific to peat management and the preparation of Peat Management Plans where on-site activities impact on peat. Site specific measures should be developed before construction begins at any location where working in peat is a constraint.

1.2 Legislation

1.2.1 Sensitive habitats may include those Scheduled under Annex 1 of the Habitats Directive. The Habitats Directive is more formally known as Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, a European Union Directive adopted in 1992. Sensitive habitats may more widely be defined as habitats where additional care is required to avoid permanent damage or to reinstate to the previous condition.

2 General Compliance Requirements

2.1 General

2.1.1 Whilst working within sensitive habitats or peatlands follow best practice from NatureScot and SEPA.

2.1.2 When working in areas with sensitive habitats, the hierarchy of avoid, minimise, mitigate, and manage must be applied.

2.1.3 Where possible areas of development such as cable routes, access tracks and tower positions, as well as permanent/ temporary compounds or laydown areas, should be micro-sited within permissible limits to avoid and minimise impacts on areas of sensitive habitat and areas of deep peat.

2.1.4 Stripping areas of sensitive habitat and peatland should be kept to an absolute minimum and done in consultation with the environmental representative.

2.1.5 During planning and implementation consider how the site will be restored or reinstated on completion of the works.

2.1.6 Ensure adequate corridors / areas are allowed for water management and reinstatement works which may include sourcing donor material from adjoining areas in some instances.

2.1.7 Consider effects of local hydrology factors (drainage, watercourses, flushes, bog pools, peatlands, etc.) on established habitats and seek to maintain hydrology regimes during the works.

2.1.8 If hydrological impacts cannot be avoided, or significantly mitigated through design and implementation, ensure hydrological connectivity is re-stablished as soon as possible. Ensure developed or reinstated areas do not form preferential drainage.

2.1.9 Areas where rain water has been flowing over the ground surface should be identified in advance of works.

2.1.10 Design drainage channels or pipe systems to conduct water across cable trenches (or areas where tracks have been removed and ground reinstated). This will minimise post-construction damage and to allow better opportunities for re-vegetation and successful reinstatement. Any drainage pipes should be removed once vegetation and stabilisation of original drainage has been established. All temporary materials used for mitigation / drainage purposes during development must be removed on completion.

2.1.11 Undertake post-installation / restoration inspections to identify any areas where surface water flow is causing soil erosion.

2.2 Access

2.2.1 Access across sensitive habitats must be done as efficiently as possible, avoiding unnecessary movements back and forth.

2.2.2 Agree an Access Strategy and details of all access routes with the environmental representative ahead of works, avoiding impacts on peatland or sensitive habitats as far as possible. Where All Terrain Vehicles (ATVs) are used for multiple trips where there is no formally constructed access track, consider changing access route if ground shows evidence of becoming damaged (avoiding sensitive habitats), rather than repeated use of one route that subsequently requires more significant reinstatement / restoration. Any alternative route must be agreed with the environmental representative/ ECoW in advance of being used.

2.2.3 Where no existing access tracks exist, seek to use temporary trackway solutions including trackway panels (e.g. Terrafirma Dura-Base or Trackway), timber log mats or bog mats when transiting sensitive habitats or peatlands. Where plant and terrain do not suit the use of temporary access panels type solutions, temporary floating stone roads may be needed.

2.2.4 Access across unprotected peatland, or other sensitive habitats, should be restricted to low ground pressure vehicles and plant only (i.e. suitable ATV, Argocat or Softrack, or wide spread tracked machines), and should avoid rutting. Any damage caused must be reinstated to a high standard on cessation of the works.

2.3 Access Track Construction

2.3.1 Design of works should avoid the potential for concentrated discharges of water onto the hill slopes. In particularly susceptible areas, the use of drainage ditches may be necessary upstream of the construction corridor (e.g. above access tracks). These should be installed following advice from hydrological specialists and in agreement with project environmental representative.

2.3.2 Ensure adequate cross track drainage is installed (temporary or permanent access tracks) through use of culverts at regular intervals, connecting track side ditches, minor watercourses and flow paths (where there may not be obvious watercourses) above the track to habitats beneath, ensuring hydrology is maintained as close to natural as possible. Increase frequency of cross track drainage where wetter habitats are transected by tracks, i.e. through peatlands, wet heath, flushes, etc. Avoid discharging track drainage ditch flow into watercourse crossings (maintain separate to cross track drainage).

2.3.3 Working in areas of peatland should be avoided, as far as practicable, during times of the year with the highest rainfall. Stripping of peat and reinstatement works should stop during periods of sustained heavy rainfall.

2.3.4 During the reinstatement of sensitive habitats, it may be necessary to utilise living donor turfs from land either side of the development and to rework acrotelm from land adjoining the works corridor to prevent formation of preferential drainage.

2.3.5 Across areas of deep peat, and other sensitive habitats, floating roads are generally preferable, especially where temporary. The formation of temporary access tracks should be underlaid with geotextile and geogrids. This should exceed the width of the track formation to avoid overspill of stone onto adjoining habitat and to assist in separation of the track construction materials from the underlying soils.

2.3.6 Where excavation is required, a tracked excavator should first remove turfs to a depth of 300 mm using as large a toothed bucket wherever possible. (This may not be appropriate where archaeological interest exists, and smooth buckets are specified).

2.3.7 Turfs, peat and subsoil should be stored separately in line with Soil Removal, Storage and Reinstatement General Environment Management Plan. Peat should be handled in line with any Peat Management Plan in place.

2.3.8 Turfs and soil should be stored to the side of the excavation. Where this is on good quality blanket bog, or other sensitive habitat, storage should be on top of a geotextile membrane.

2.3.9 Turfs should be stored root side down and should remain in the storage location until required for reinstatement (this is to avoid multiple handling and reduce the potential for turfs becoming unstable). If stored for longer drier periods, turfs may require watering to give vegetation the best chance of survival and improve eventual reinstatement chance of success. (Any water abstraction associated with this activity needs to be compliant with the Controlled Activities Regulations (CAR)).

2.3.10 Subsoil layers and peat layers should be reinstated in the order they were removed, and the turfs should be reinstated root side down, vegetative side up.

3 Peat Management

3.1 General Peat Management Requirements

3.1.1 In addition to the unique habitats provided by peatlands, areas of deep peat have a significant global role in carbon sequestration. Disturbing peat can release CO_2 to the atmosphere as the peat is oxidised when exposed to air or dried out. Through proper management of peat these impacts can be reduced.

3.1.2 It is important to ensure the hydrological regime of peatland is maintained and that peat is not left unprotected to avoid erosion and degradation. Avoid unnecessary drainage of peatlands. Any temporary cut off ditches should be back filled as soon as practical on completion of works.

3.1.3 Ensure that large loads do not compress peat and create a barrier to water movement which could cause ponding at one side of the corridor and drying out at the other, or cause peat slump by displacement.

3.1.4 A Peat Landslide Hazard and Risk Assessment (PLHRA) may be required by the project, and should be agreed prior to the construction phase. The PLHRA should be undertaken, and updated to reflect any changes, in line with Scottish Government best practice. Mitigations identified within the PLHRA must be followed.

3.1.5 Existing degraded peatland can often be stabilised or re-established to active peatland with minimal effort, and opportunities to undertake such works should be investigated where possible. For example, reprofiling of peat hags and blocking of drainage channels within peatlands.

3.2 Peat Management Plans

3.2.1 Where significant impacts on peat are identified, or where peat depth is greater than 0.5 metres, a site or project specific Peat Management Plan (PMP) may be required and should be agreed prior to the construction phase. The PMP must be developed with input from the environmental representative and may require stakeholder input.

3.2.2 In certain circumstances a PMP may be required as a condition of consent or as specified as a contract deliverable. In these circumstances the content must reflect that required by the consent or contract.

3.2.3 The Peat Management Plan, as a minimum, should:

- Include and adhere to principles set out in best practice and guidance notes from NatureScot and SEPA, including SEPA's guidance note WST-G-052 -Developments on Peat and Off-Site Uses of Waste Peat.
- Include detailed 1:25k/ 1:10k OS background-based plans with site location insets (1:50k OS mapping), detailing peat depth maps, highlighting areas of deep peat, storage areas and any areas suitable for restoration / reinstatement.

- Reference peat depth maps, identify how impacts on peat have been minimised and quantify types and volumes of peat anticipated to be disturbed by the project.
- Identify appropriate storage of peat for reuse (during reinstatement for example). In line with the Soil Removal, Storage and Reinstatement GEMP.
- Identify suitable areas for separate storage of excavated strata, including for example, turfs, peat and subsoil. It may also be appropriate to implement different management and storage strategies for the various strata of deep peat, including top vegetative layer and acrotelm, where fibrous living organic matter is still evident, separate to the catotelm, where the structure of the peat is more homogenous and loses its structure more easily
- Detail how the works have been planned to ensure minimal handling of peat. (In moving and reworking peat, the structure can easily be lost making storage and reuse more challenging). Turfs and other peat materials should be stored as close to origin as possible.
- Detail inspection regime to ensure peat is regularly checked for signs of drying out and detail planned measures to prevent this occurrence. (If drying out is occurring the storage areas may require to be sprayed with water. Any water abstraction associated with this activity needs to be compliant with the Controlled Activities Regulations (CAR)).
- Identify opportunities for reuse on and off site if required (in peatland restoration for example). Transport of peat significant distances must be avoided. Detail plans for reinstatement of stored material, including potential peatland restoration works. During implementation ensure that no bare (unvegetated) peat is exposed as this may take a long time to re-establish, and will be a high risk of degradation and erosion; and
- Include a water management strategy for minimising impacts of construction activities on the peatland.

3.2.4 The Peat Management Plan must be followed during the construction phase, with any required changes agreed as the project progresses. Changes may be required to be agreed with stakeholder such as local planning authority / SEPA.

4 Revision History

No	Overview of Amendments	Previous Document	Revision	Authorisation
01	New Document Created	N/A	1.00	Richard Baldwin
02	Reviewed and updated.	TG-NET-ENV-513 (Rev 1.00)	2.00	Richard Baldwin
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