Volume 2: Chapter 13 – Schedule of Environmental Mitigation

VOLUME 2, CHAPTER 13: SCHEDULE OF ENVIRONMENTAL MITIGATION

Appendices (Volume 4 of this EIAR)

There are no appendices associated with this Chapter.

Figures (Volume 3 of this EIAR)

There are no figures associated with this Chapter.

13. SCHEDULE OF ENVIRONMENTAL MITIGATION

13.1 Introduction

13.1.1 This Chapter collates the mitigation measures and environmental management commitments which are presented in each of the chapters (**Volume 2, Chapters 1 to 10**) of this Environmental Impact Assessment Report (EIAR) into a single schedule, which is presented in **Table 13.2: Schedule of Mitigation Measures** below. Measures to mitigate construction and operational phase effects are included and apply throughout the Proposed Development unless otherwise specified.

13.1.2 While some mitigation measures will serve to avoid effects, others will reduce or (in specific instances) serve to off-set them. Environmental effects and associated mitigation measures are presented in the order in which they appear within this EIAR.

13.1.3 Mitigation measures that have been incorporated into the Proposed Development through the design development process, including those relating to avoidance of impacts throughout the development, are not included here as they form part of the iteration of the Proposed Development described in **Volume 2, Chapter 3: Project Description**. However, some topic specific embedded mitigation measures which have formed an integral part of the OHL design have been included in **Table 13.2: Schedule of Mitigation Measures**.

13.1.4 **Table 13.2: Schedule of Mitigation Measures** is structured to distinguish between embedded, applied and additional mitigation as defined below:

- Embedded mitigation (design consideration) includes measures which are inherent to the design of the scheme and which have been identified and developed through the iterative design process as a means of minimising or avoiding potentially Significant effects.
- Applied mitigation (good practice measures) relate to industry-standard, well understood measures with a high degree of confidence in their effectiveness (most often adopted as good practice environmental management during construction). 'Good practice measures' are applied construction or operational measures which are expected as standard practice to minimise environmental effects.
- Additional mitigation (specific measures) are committed additional measures which are not standard but are site/location specific and are needed to address likely Significant effects identified through the impact assessment process (having taken account of embedded and applied mitigation). They are bespoke measures needed to further reduce the significance of residual predicted effects of the Proposed Development.

13.1.5 A key part of the pre-construction and construction phase, mitigation would be delivered through the implementation of a location-specific Construction Environmental Management Plan (CEMP). The outline content of the draft CEMP is provided in the Outline CEMP and supporting SSEN Transmission General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) (see **Volume 4, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs**)). Whilst it is considered standard practice to undertake works in accordance with a CEMP, the key relevant measures from the CEMP, GEMPs and SPPs identified for the Proposed Development are set out **in Table 13.2: Schedule of Mitigation Measures** (as applied mitigation) as they have been relied upon for the purpose of the technical impact assessments informing the EIAR.

13.1.6 Any additional monitoring requirements identified have also been included in **Table 13.2: Schedule of Mitigation Measures**. Topic specific embedded, applied and additional mitigation measures have been alpha numerically referenced as discrete measures using the codes presented in **Table 13.1: Mitigation Code Guide** below:

Table 13.1: Mitigation Code Guide

Topic	Code
General	G
Landscape and Visual Amenity	LV
Cultural Heritage	CH
Ornithology	O

Topic	Code
Noise and Vibration	NV

Table 13.2: Schedule of Mitigation Measures

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
General **(Introductory Chapters 1-6)**	Applied Mitigation	**G1 - SSEN Transmission General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)** All construction and (where relevant) decommissioning works will be carried out in accordance with all relevant General Environmental Management Plans (GEMPs) and relevant Species Protection Plans (SPPs) that have been developed by the Applicant. These documents set out the minimum general good construction environmental management and mitigation principles and measures that SSEN Transmission requires for all OHL and substation projects. The following GEMPs and SPPs have been assumed as part of the applied mitigation for this project and EIA: • GEMP: Oil Storage and Refuelling; • GEMP: Soil Management; • GEMP: Working in or Near Water[1]; • GEMP: Working with Concrete; • GEMP: Watercourse Crossings; • GEMP: Waste Management; • GEMP: Contaminated Land; • GEMP: Private Water Supplies: • GEMP: Dust Management; • GEMP: Biosecurity (on Land)[1]; • GEMP: Restoration; • GEMP: Bad Weather; • SPP: Badger; • SPP: Bat; • SPP: Beaver; • SPP: Bird; • SPP: Freshwater Pearl Mussel; • SPP: Otter;	Pre-construction During construction Operation Decommissioning	Principal Contractor Relevant Sub-Contractors

[1] This GEMP also includes general principles for management of Invasive Non Native Species (INNS). The presence of INNS will also be recorded within the CEMP under the site's Environmental Constraints.

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		• SPP: Pine Marten; • SPP: Red Squirrel; • SPP: Water Vole; • SPP: Wildcat; and • SPP: Wood Ant. The current versions of the SSEN Transmission GEMPs and SPPs are set out in **Volume 4, Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**. Topic-specific applied mitigation measures within these GEMPs and SPPs which have been assumed in the environmental assessments in **Volume 2, Chapters 7 – 10** of the EIAR are set out in the relevant sections of this table for each topic.		
		G2 – Construction Environmental Management Plan (CEMP) A contractual management requirement of the Principal Contractors would be the development and implementation of a CEMP. This document will detail how the Principal Contractors would manage construction and (where relevant) decommissioning work in accordance with all commitments and mitigation detailed in the EIAR, statutory consents and authorisation, SSEN Transmission's specific requirements and relevant industry best practice and guidance. The Principal Contractors will also be required to develop detailed procedures and mitigation to implement a series of supporting management plans to the CEMP. These Plans are required as a condition of SSEN Transmission contracts and will include: • Site Waste Management Plan; • Site Water Management Plan and Pollution Prevention Plan; • Soil Management and Restoration Plan; • Cultural Heritage Management Plan/Written Scheme of Investigation; • Ecological and Ornithological Management Plan; • Construction Noise Management Plan; • Air Quality Management Plan; • Construction Traffic Management Plan; • Outdoor Access Plan; and • Landscape Plan. Topic-specific applied mitigation measures which would routinely be considered within these Management Plans and which have been assumed in the	Pre-construction During construction Decommissioning	Principal Contractor Relevant Sub-Contractors

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		environmental assessments in **Volume 2, Chapters 7-10** of the EIAR are set out in relevant sections of this table for each topic. The topic-based sections of this table also present any further, specific, mitigation measures (additional mitigation) which has been considered to be required to be included in the CEMP following the EIA. The CEMP would also reference the aforementioned GEMPs and SPPs. The implementation of the CEMP would be managed on-site by the Principal Contractor (eg environmental managers/advisors or technical specialists) and monitored on-site by a suitably qualified and experienced Advisory Environmental Clerk of Works (ECoWs), with support from other environmental professionals as required. An Outline CEMP document which sets the framework for specific development of the CEMP for implementation on-site by the Principal Contractors is set out in **Volume 4, Appendix 3.4: Outline Construction Environmental Management Plan (CEMP)**.		
		G3 – Construction Employment and Hours of Work Construction working is likely to be during daytime periods only. Working hours are currently anticipated to be between approximately 07:00 to 19:00 during British Summer Time (BST) and 07:00 to 18:00 during Greenwich Mean Time (GMT), seven days a week. Special measures and arrangements would be made for works in proximity to sensitive receptors.	During construction	Principal Contractors Relevant Sub-Contractors
		G4 – Outline Site Restoration Plan The Outline Site Restoration Plan provides an overview of the restoration procedures which are to be adhered to during the pre-construction, construction and reinstatement of the Proposed Development. The overall aim of these procedures is to facilitate the restoration of landform, habitats, vegetation and forestry which have the potential to be disturbed as a result of the Proposed Development. Any planting outwith forest areas for habitat or landscape mitigation purposes would be undertaken subsequent to ground vegetation restoration.	Pre-construction During construction Operation	Principal Contractors Relevant Sub-Contractors
		G5 – Outline Decommissioning Mitigation Strategy At the time of preparation of this EIAR, it is not known when – or whether – any decommissioning of the OHL and associated infrastructure would be required. The Applicant anticipates that any Section 37 Consent for the Proposed Development would likely include a condition requiring the approval of a Decommissioning Strategy and/or Plan either prior to commencement of the OHL installation or at another milestone date.	Decommissioning	Principal Contractors Relevant Sub-Contractors

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		The Decommissioning Strategy would provide a management framework to ensure that potential future requirements for dismantling and decommissioning are considered on a regular basis as part of the Applicant's project and asset management procedures. The Decommissioning Strategy would commit to the development of a future Decommissioning and Restoration Plan (DRP) which would be prepared by the Transmission Licence Holder and at an agreed project lifecycle stage, in the event that proposals for decommissioning were likely to be required. The DRP would be a more detailed document than the Decommissioning Strategy and would set out specific information about how dismantling and decommissioning would be undertaken including method statements and programmes. At this EIA stage on Outline Decommissioning Mitigation Strategy (ODMS) has been prepared to provide the framework for future detailed work and is included within **Volume 4, Appendix 3.6 Outline Decommissioning Mitigation Strategy**. The ODMS sets out a high-level statement of the approach and commitment to mitigating potentially Significant effects from future dismantling and decommissioning activities associated with the Proposed Development.		
		G6 Where there is a requirement to vary the location (or height) of infrastructure within the Limit of Deviation (LODs), the relevant environmental information within the EIAR would be reviewed to establish any potential constraints or adverse change in effect. Further advice on LOD changes would be sought from environmental specialists, and where relevant consultation would be sought from Angus Council (as the local authority) and other statutory consultees as required. Prior to any change being made to the Proposed Development within the LOD, a change control process would be undertaken to ensure that there is no unacceptable increase in adverse impacts as a result of the change. This process is managed via the Applicant's internal process 'Change Request Procedure for Project Design Parameters Controlled by Consent Limitations (PR-NET-ENV-503)'.	Pre-construction During construction	Principal Contractor
		G7 Where there is a requirement to restrict the horizontal or Vertical LOD, this amendment is detailed within the LOD Schedule within **Volume 2, Chapter 3: Project Description**.	Pre-construction During construction Operation	Principal Contractor
	Monitoring	**G8**	Operation	Applicant

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		The Operational Corridor of the OHL is monitored through periodic inspection to identify growth of trees which may compromise the resilience of the OHL. Where trees are identified which could pose a risk to the safe operation of the line in the future, these are felled. Removal of other vegetation, eg gorse, may be required to ensure the area under the conductors is clear so access can be taken and to facilitate safe maintenance or repair in the event of failure.		
Landscape and Visual	Topic Specific Embedded Mitigation	**LV1** The mitigation of potential landscape and visual effects has been approached through the design of the OHL and ancillary infrastructure. The LVIA process has informed modifications and refinements to the detailed design of the Proposed Development, including consideration of individual tower locations during the design and assessment process. The Holford Rules were used to inform the siting and design of the alignment to minimise potential landscape and visual effects. In particular, alignment design sought to apply the following principles: • Avoid hill summits and elevated ridgelines where possible to reduce the prominence of the Proposed Development on elevated skylines and its influence on landscape character and views, including from local landscape designations, settled areas, and key recreational locations (Rule 4). • Where possible, utilise opportunities to backcloth the Proposed Development against areas of woodland and forestry and/or higher landform to reduce the Proposed Development's prominence and position along open skylines (Rule 4).		
	Applied Mitigation	**LV2** Adherence to all relevant SSEN Transmission GEMPs, including soil management, working in sensitive habitats, forestry, and restoration as well as best practice principles on restoration following construction.	Construction	Principal Contractor
		LV3 Preparation and implementation of CEMP which shall include but not be limited to the following: protection of landscape features, reinstatement of landscape features, soil management, ecological management and general construction practices (including storage of machinery and materials, vehicle movements and removal of construction waste). Post consent, a Landscape Mitigation Plan to sit alongside the CEMP will be produced in accordance with the Outline Site Restoration Plan and Visual Impact Management Plan to be included within the CEMP.	Construction	Principal Contractor
	Monitoring	**LV4** Survey and monitoring of the proposed landscape restoration proposals within the Operational Corridor, to ensure the proposals are implemented successfully	Ongoing during construction.	Principal Contractor/landowner

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		and the predicted mitigation of landscape and visual effects is delivered. Monitoring shall apply to Applied Mitigation and Additional Mitigation.	Post-construction on an annual basis for five years.	
Cultural Heritage and Archaeology	Topic Specific Embedded Mitigation	**CH1** The Proposed Development, including both OHL and access elements, has been designed to avoid any direct impacts on Scheduled Monuments (SM), that lie in close proximity to the Site. Where Scheduled Monuments lie within the Proposed Development horizontal LOD (eg SM 6123), these would be marked out with a suitable stand-off buffer to be agreed in advance with HES.		
	Applied Mitigation	**CH2** Construction works will proceed in accordance with the measures outlined in the CEMP.	Construction	Principal Contractor
		CH3 Construction machinery will operate only within defined working areas and access corridors, limiting ground disturbance.	Construction	Principal Contractor
		CH4 Upstanding cultural heritage remains will be retained where possible. Where necessary, existing cultural heritage features may be fenced off or otherwise visibly marked out to signal their presence to construction workers.	Construction	Archaeological Contractor and Principal Contractor
		CH5 Archaeological evaluation (trial trenching) will be undertaken in archaeologically sensitive areas within the LOD, with the scope of the works to be agreed with ACAS (Aberdeenshire Council Archaeological Service) and detailed in a Written Scheme of Investigation (WSI).	Pre-Construction	Archaeological Contractor
		CH6 Archaeological monitoring (watching briefs), and set piece excavations will be undertaken to record specific heritage assets where these cannot be avoided through design or micro siting. The scope of the works to be agreed with ACAS and detailed in a WSI.	Pre-Construction	Archaeological Contractor
		CH7 Should they be encountered, previously unidentified archaeological remains will be subject to a programme of archaeological works to be developed in consultation with ACAS and detailed in a WSI. It is envisaged that the requirement for a WSI will be secured through a suitably worded planning condition.	Construction	Archaeological Contractor and Principal Contractor

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
	Monitoring	**CH8** Check that marking out of heritage assets within the Proposed Development Site has been effective and that none of the heritage assets have been disturbed during construction works.	Post Construction	Archaeological Contractor
		CH9 Check that all makers have been removed from heritage assets following completion of the Proposed Development.	Post Construction	Archaeological Contractor
Ornithology	Topic Specific Embedded Mitigation	**O1** Avoidance of Designated Sites and areas of high bird use through the routeing and alignment processes; and		
		O2 Installation of line markers (also known as flight diverters) on the OHL to reduce collision risk for Special Protection Area (SPA)-qualifying species and other bird species potentially at risk of collision, including at 'hot-spots' identified from vantage point (VP) surveys. Line marking will be implemented in the following instances: • Within 5 km of all SPAs that support qualifying species classed as being at relatively high risk of collision (ie waterfowl); • Where flight activity across any OHL span has been judged to be substantial potentially leading to adverse impacts on regional populations of at-risk species, namely those Target Species recorded as flying at collision risk height and where flight lines intersect the Proposed Development (adjacent OHL spans also to be marked); • Within 500 m of identified Schedule 1 raptor species nests; and • Where the OHL spans a waterway (principally to mitigate risk to Red-breasted Merganser).	During construction	Principal Contractor
	Applied Mitigation			
	Additional Mitigation	**O3 Bird Species Protection Plan (BSPP)** The Applicant's BSPP TG-NET-ENV-505, will be implemented to ensure legislation in relation to the protection of birds is adhered to. As part of the BSPP, pre-construction surveys and data collection is an essential requirement, General Applied Mitigation is outlined within the BSPP which follows a hierarchical approach, including programming work outwith the breeding bird season (as defined by NatureScot) and establishing appropriate protection zones (which are defined in the BSPP) for specially protected or sensitive species.	Prior to and during construction	Principal Contractor

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		Implementation of the BSPP would be overseen by a suitably experienced ECoW, with further detail on the definition of this role and implementation included as part of an outline Construction Environmental Management Plan (CEMP; see O4 below).		
		O4 Construction Environmental Management Plan (CEMP) Preparation and implementation of the CEMP: this will incorporate on Ornithological Management Plan (OMP) pursuant to the contractual requirements of the Principal Contractor.	Prior to and during construction	Principal Contractor
		O5 Biodiversity Net Gain (BNG) The Applicant will implement on-site and off-site BNG measures, as defined in the standalone Biodiversity Net Gain Assessment Report, which is submitted with the application for Section 37 Consent and deemed planning permission. BNG measures will deliver no less than a 10% net gain in biodiversity units, which will include measures designed to provide habitat for ornithological species.	Prior to operation	Applicant
	Monitoring	**Nesting Bird Checks** Pre-commencement nesting bird checks will be carried out in suitable habitat and where signs of breeding birds are identified during surveys undertaken prior to any felling or vegetation clearance within the breeding season (April to August inclusive). Checks of the relevant works areas for nesting birds (all species) would be completed up to 48 hours prior to commencement of works in any suitable nesting habitats.	Prior to and during construction (April to August inclusive)	Principal Contractor (via ECoW)
		Ornithological Monitoring Where an active bird nest has been identified, the BSPP will be applied with protection zones (buffers) implemented according to the nesting species. Monitoring by a suitably experienced ECoW shall be carried out throughout the nesting period until the nest is known to have failed or the young have fledged; in either case the nest would no longer be considered active, and the protection zone may be removed with works allowed to commence.	Prior to and during construction (April to August inclusive)	Principal Contractor (via ECoW)
Noise and Vibration	Topic Specific Embedded Mitigation	**NV1** Permanent towers and conductors are not proposed to be located within 170 m of NSRs (nearest is NSR 5 – Seventeen Acres at 188 m), beyond this distance, the conductor produces relatively low noise. The purpose and key driver of the routeing is to avoid proximity to NSRs such as residential properties.	Detailed Design	Applicant
		NV2 Aeolian noise is caused by wind blowing through the conductors and/or structures. This type of noise is usually infrequent and depends on wind velocity	Detailed Design	Applicant

Topic	Type of Mitigation	Mitigation Measure	Project Stage/Timing	Responsibility
		and direction. Wind must blow steadily and perpendicular to the lines to set up an aeolian vibration, which can produce resonance if the frequency of the vibration matches the natural frequency of the line. Dampers can be attached to the lines to minimise aeolian vibration and therefore aeolian noise. It must be ensured that no components are used that have a known history to produce high aeolian noise.		
	Applied Mitigation	**NV3** Construction Noise Management Plan (CNMP) including, but not limited to, the following measures: Set out proactive strategies to manage and minimise the noise and vibration impacts generated by construction. Mitigation measures are recommended such as the control of the noise source levels, controlling the noise transmission path via noise barriers, time management and managing operational times of equipment when not in use. This will also include community engagement and stakeholder management plans to ensure legal compliance with Control of Pollution Act 1974. Updated detailed construction noise impact assessment and CNMP. Carry out identified high noise level activities during daytime defined hours 07:00 – 19:00 on weekdays and 07:00 – 13:00 on Saturdays. Construction noise monitoring utilising best available techniques (BAT).	Pre-Construction Phase	Principal Contractor
	Additional Mitigation	No additional mitigation is required for operational noise.	N/A	N/A
	Monitoring	Construction noise monitoring utilising best available techniques (BAT).	During construction and operation	Principal Contractor