

# Replacement of Tower 20 and Installation of Downleads on the Tealing to Arbroath 132kV Overhead Line Circuit Environmental Appraisal

**March 2025** 





# CONTENTS

1.	INTRODUCTION AND SCOPE OF REPORT	1-3
1.1	Introduction	1-3
1.2	Consultation and EIA Screening	1-3
1.3	Environmental Appraisal	1-3
2.	PROPOSED DEVELOPMENT	2-4
2.1	Proposed Development	2-4
2.2	Construction	2-5
2.3	Environmental Management during Construction	2-7
3.	ENVIRONMENTAL APPRAISAL	3-8
3.1	Overview	3-8
4.	SUMMARY OF MITIGATION MEASURES	4-14

#### Appendices

Appendix A: Energy Consents Unit (ECU) Screening Opinion

Appendix B: SSEN Transmission General Environmental Management Plans (GEMPs)

Appendix C: SSEN Transmission Species Protection Plans (SPPs)

#### Figures

Figure 1: Location Plan

Figure 2: Proposed Development

Figure 3: Environmental Designations and Ancient Woodland

Figure 4: Environmental Constraints



# 1. INTRODUCTION AND SCOPE OF REPORT

# 1.1 Introduction

- 1.1.1 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 As part of works to facilitate connection of a proposed photovoltaic solar farm and battery energy storage system (BESS) development near Tealing, Angus, to the National Grid (see Figure 1: Location Plan), the Applicant is proposing to replace one tower (Tower 20) on the Tealing to Arbroath 132 kV overhead line (OHL) circuit, and install downleads from the new proposed tower (referred to as Tower 20R) to a new proposed substation as part of the 80 MW BESS development. The new substation and BESS development are subject to separate applications for consent. The works, referred to in this report as the 'Proposed Development', are shown on Figure 2: Proposed Development.
- 1.1.3 The installation and operation of the downleads would require Section 37 consent under the Electricity Act 1989. Given that the height and the location of the existing tower is not anticipated to change, the replacement of Tower 20 would be carried out under the Overhead Lines (Exemption) (Scotland) Regulations 2013. Further works to temporarily divert and install a fibre optic cable on the existing OHL would also be carried out under the Overhead Lines (Exemption) (Scotland) Regulations 2013.

#### 1.2 Consultation and EIA Screening

1.2.1 A request for a Screening Opinion in relation to the Proposed Development was provided to the Energy Consents Unit (ECU) of the Scottish Government in May 2024 under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 regulations.

A Screening Opinion was received from ECU on 6<sup>th</sup> June 2024, confirming that the Proposed Development does not constitute EIA development, and any forthcoming application does not need to be accompanied by an EIA Report. The Screening Opinion is included as **Appendix A: Energy Consents Unit (ECU) Screening Opinion**.

## 1.3 Environmental Appraisal

1.3.1 The Applicant recognises that the Proposed Development may give rise to some environmental effects. As such, whilst an EIA Report is not required, a voluntary Environmental Appraisal (EA) has been undertaken, the results of which are detailed in this report (with reference to Figure 3: Environmental Designations and Ancient Woodland and Figure 4: Environmental Constraints).



# 2. PROPOSED DEVELOPMENT

# 2.1 Proposed Development

2.1.1 The Proposed Development would be located on the Tealing to Arbroath 132 kV OHL circuit, approximately 4 km east of Tealing in the local authority area of Angus Council, as shown on **Figure 1**.

### Section 37 Consent

2.1.2 Section 37 Consent under the 1989 Act, including deemed planning permission under section 57(2) of the Town and Country Planning (Scotland) Act 1997, is sought for the installation of downleads from replacement Tower 20R (grid reference: 345251, 738205) to the new substation compound (subject to a separate planning application) required as part of the consented BESS development and solar farm.

## Ancillary Development

- 2.1.3 The following ancillary works would also be required as part of the Proposed Development, to facilitate its construction and operation. Deemed planning permission under section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended) is sought for these works:
  - Temporary access tracks and working / laydown area around infrastructure to facilitate construction; and
  - Vegetation clearance to create a safety clearance corridor between the existing OHL and the new substation platform.

## Overhead Line (Exemption) Regulations

- 2.1.4 The works for the installation of replacement Tower 20R (approximately 34.2 m in height) would be carried out under the Overhead Lines (Exemption) (Scotland) Regulations 2013. **Plate 2.1** provides an indicative schematic of the replacement tower.
- 2.1.5 In addition to the replacement tower, it is proposed to temporarily divert the Fibre Optic Communication cable over a number of towers (expected to be between Tower 14 and Tower 22 on the existing OHL circuit). These works would also be carried out under the Overhead Lines (Exemption)(Scotland) Regulations 2013 and would involve a fibre cable being wrapped (using SkyWrap technology) around the existing earth wire or conductor to provide continued communication on the circuit whilst the replacement tower is being installed. The installation equipment for these works is typically lightweight, easy to handle and quick to install.



# Plate 2.1: Schematic of Steel Lattice Tower Double Circuit (L7c DJT)



 Earthwire
 Conductor - Top Phase
 Conductor - Middle Phase
 Conductor - Bottom Phase

#### 2.2 Construction

#### Construction Access

2.2.1 Access to the site of the Proposed Development would be via the A92 and B978 and would most likely utilise existing access tracks to facilitate construction of the Proposed Development. A temporary work area would require to be established at the site.

#### Construction activities

- 2.2.2 The construction of replacement tower, and installation of downleads, would involve the following tasks:
  - 1. Establishment of suitable laydown area for materials within the proposed development site.
  - 2. Delivery of components and materials to site.
  - 3. Establishment of temporary access to existing towers 14 to 22 for installation of fibre wrap, if required.
  - 4. Installation of fibre wrap between towers 14 to 22.
  - 5. Installation of replacement terminal tower (Tower 20R) to replace existing Tower 20.
  - 6. Removal of existing Tower 20 (approximately 32.4 m in height).
  - 7. Removal of fibre wrap between towers 14 to 22.
  - 8. Installation of downleads from replacement Tower 20R into the consented substation compound.
  - 9. Removal of temporary trackway pads, if required.
  - 10. Site reinstatement.

Noise

- 2.2.3 The nearest buildings to the Proposed Development comprise the small cluster of buildings near Brawside, situated approximately 700 m south-west of the site. Construction noise is considered to be short term and intermittent and can be controlled by planning condition to restrict working hours to 07:00 19:00 Monday to Friday and 07:00 13:00 on Saturday, or other hours to be agreed with Angus Council.
- 2.2.4 Impacts from operational noise are not anticipated.



#### Traffic and Transport

Delivery of Structures and Materials

- 2.2.5 All materials would be delivered to the temporary construction compound.
- 2.2.6 No abnormal load vehicles would be required. The largest vehicles requiring access would be regular articulated lorries (HGV's) and a small crane.

### Traffic Management

- 2.2.7 The Principal Contractor, once appointed, will provide a detailed Construction Traffic Management Plan (CTMP) prior to any work commencing. The CTMP would be developed in agreement with Angus Council and Transport Scotland to effectively manage traffic during the construction period.
- 2.2.8 The CTMP will describe all mitigation and signage measures that are proposed on the public road accesses and tabulated details of the anticipated traffic movements on a month-by-month basis over the construction period for the Proposed Development.
- 2.2.9 The CTMP will remain a live document and will be updated during the construction period if any amendment to traffic management is required.
- 2.2.10 Further to this, it is anticipated that traffic movements would be controlled through a combination of the following:
  - The Principal Contractor will liaise with all relevant Local Authorities and Transport Scotland to determine the appropriate traffic management arrangements for construction vehicle movements;
  - Construction traffic hours and delivery times;
  - The Principal Contractor will agree appropriate and safe routes to and from the site with the relevant Local Authorities and Transport Scotland. All construction vehicles will be required to use approved access routes;
  - Issues relevant to the public road network that the Principal Contractor should consider and mitigate against include, inter alia, measures to minimise dust and dirt being deposited due to construction operations;
  - Appropriate signage warning other motorists of the presence of construction vehicles should be implemented where appropriate; and
  - The Principal Contractor will monitor and ensure that agreed mitigation measures are being implemented.
- 2.2.11 Where potential for HGVs to track dirt and debris onto the public road is considered likely, wheel washing facilities would be put in place. Dirt and debris build up on the public road would be monitored and, if required, appropriate measures, such as a road sweeper, would be employed.

#### Programme

2.2.12 It is anticipated that construction of the project would take place over an 18 month period. Construction work is likely to be undertaken during daytime periods only. Working hours are anticipated 7 days a week between approximately 07:00 to 19:00 on weekdays. Saturday working hours would be 07:00 to 13:00 with no working on Sundays. Working hours would be confirmed by the Principal Contractor and agreed with the local authority.



#### 2.3 Environmental Management during Construction

2.3.1 Best practice construction measures would be implemented during the construction work. All works will be carried out in accordance with the following documents, where relevant.

GEMPs

2.3.2 General Environmental Management Plans (GEMPs) have been developed by the Applicant. The GEMPs considered relevant for this project are identified in **Appendix B**.

SPPs

2.3.3 Species Protection Plans (SPPs) have been developed by the Applicant and would be adopted if required. These can be found in **Appendix C**.

CEMP

- 2.3.0 A contractual management requirement of the Principal Contractor would be the development and implementation of a Construction Environmental Management Plan (CEMP). This document would detail how the Principal Contractor would manage the site in accordance with all commitments and mitigation detailed in the EA, statutory consents and authorisations and industry best practice and guidance. Furthermore, this document would aim to define good practice as well as specific actions required to implement mitigation identified in the EA. Chapter 4 Summary of Mitigation Measures of this EA provides a summary of all mitigation measures identified within this EA, and this will be updated as required following further consultation and consent conditions.
- 2.3.1 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.

Decommissioning

2.3.2 The Proposed Development would not have a fixed operational life. The effects associated with the construction phase can be considered to be representative of worst-case decommissioning effects, and therefore no separate assessment on decommissioning has been undertaken as part of this EA.



# 3. ENVIRONMENTAL APPRAISAL

#### 3.1 Overview

3.1.1 A review of baseline conditions and potential constraints has been undertaken to determine the potential for environmental effects as a result of the Proposed Development. This is summarised within Table 3.1, together with reference to any required mitigation measures.

Table 3.1: Review of Proposed Development against Environmental Constraints

Торіс	Baseline	Potential Effects	Mitigation/Commitments
Landscape       Designations:         Character and       The Proposed Development is not located within, or wicinity of, any designated landscapes.         Visual Impact       Landscape Character:         The Proposed Development would be located wholly agricultural land recorded as "Dipslope Farmland Lan Character", (LCT code 387). This is an extensive area lowland farming that slopes gently towards the Angus This area is dominated by productive, predominantly agricultural land. The presence of electricity lines is p in this area, particularly given relatively sparse woodlated within is approximately 200 m distance from the Proposed Development, one of which is Core Path 202: Mill of E Cotton of Brighty, approximately 50 m to the north of Tower 20. There are a number of other paths within 1 Proposed Development.	Designations: The Proposed Development is not located within, or within the vicinity of, any designated landscapes.	The Proposed Development would not have any significant effect on designated landscapes.	No specific mitigation measures required to minimise landscape and visual effects, although compliance with the Construction Environment Management Plan (CEMP) would alleviate any potential constraints.
	Landscape Character: The Proposed Development would be located wholly on lowland agricultural land recorded as "Dipslope Farmland Landscape Character", (LCT code 387). This is an extensive area of lowland farming that slopes gently towards the Angus coast. This area is dominated by productive, predominantly arable, agricultural land. The presence of electricity lines is prominent in this area, particularly given relatively sparse woodland cover.	There would be no noticeable change in landscape character as a result of the Proposed Development. Any potential effects during the construction period would be very localised and short term. No longer term effects are likely given the Proposed Development comprises the replacement of existing structures, with the addition of downleads.	
	Visual: Visual receptors in the surrounding area are limited to scattered properties and farmsteads, the closest of which is approximately 200 m distance from the Proposed Development. Existing tracks pass within close proximity to the Proposed Development, one of which is Core Path 202: Mill of Brighty to Cotton of Brighty, approximately 50 m to the north of existing Tower 20. There are a number of other paths within 1km of the Proposed Development.	Visual effects are anticipated to be experienced during the construction phase only, and would be very localised and short term. Such effects may be experienced by nearby properties, and recreational users of the adjacent core path. No longer term effects are likely given the Proposed Development is similar in appearance to the existing structure, and the addition of downleads would not result in a noticeable change.	



Торіс	Baseline	Potential Effects	Mitigation/Commitments
Ecology and Nature Conservation	Designations: The Gagie Marsh (floodplain Fen) Site of Special Scientific Interest (SSSI) is approximately 1.3 km to the south of the Proposed Development. The SSSI is notified for its wetland plant communities and part of the management objectives for the site include monitoring and maintaining water levels to avoid the site drying out, or flooding.	There is no direct connectivity between the Proposed Development and the SSSI, and there are no watercourses within the immediate vicinity (100 m) of the proposed works that would lead to any potential indirect effect. No significant effects are likely.	Construction works would be carried out in line with the Applicant's GEMPs and a site-specific CEMP. This document would detail how the successful Principal Contractor would manage the works in accordance with the Applicant's GEMPs, statutory consents and authorisations, and industry best practise and guidance, including pollution prevention guidance. With the implementation of these mitigation measures, no effects on the surrounding environment are anticipated.
	<u>Protected Species</u> : A desk-based study <sup>123</sup> was completed to identify suitable habitat for protected species within the vicinity of the Proposed Development. The results of the study showed limited suitable habitat within close proximity to the Proposed Development however, woodland and woodland edge habitat could provide suitable habitat for badger, red squirrel, pine marten and bat species.	Whilst potential effects on protected species are not expected, the Applicant has developed a suite of Species Protection Plans (SPPs) that would be implemented during construction to mitigate any effects on protected species if required.	Species Protection Plans (SPPs), if required, will be implemented during construction to mitigate any potential effects on protected species.
	Habitat: A desk-based study <sup>4</sup> identifying habitats within the Proposed Development site and surrounding area showed the area to be dominated by arable agricultural land of low ecological	The Proposed Development is likely to affect low sensitivity habitats only. Excavated soil would be stored adjacent to the proposed works during construction, and this would be used to restore and reinstate disturbed areas once works are complete. There is not	Construction works would be carried out in line with the Applicant's GEMPs and a site-specific CEMP. This document would detail how the successful Principal Contractor would manage the works in accordance with

<sup>&</sup>lt;sup>1</sup> Joint Nature Conservation Committee (JNCC) (Available at: https://jncc.gov.uk) Accessed January 2025

Replacement of Tower 20 and Installation of Downleads on the Tealing to Arbroath Circuit - Environmental Appraisal

<sup>&</sup>lt;sup>2</sup> NatureScot Site Link (Available at: https://sitelink.nature.scot/home) Accessed January 2025

<sup>&</sup>lt;sup>3</sup> The National Biodiversity Network (NBN) (Available at: https://nbn.org.uk) Accessed January 2025

<sup>&</sup>lt;sup>4</sup> Habitat Data (and the Habitat Map of Scotland) | NatureScot (Available at https://www.nature.scot/landscapes-and-habitats/habitat-data-and-habitat-map-scotland) Accessed January 2025



Торіс	Baseline	Potential Effects	Mitigation/Commitments
	sensitivity. The Ancient Woodland Inventory (AWI) of Scotland <sup>5</sup> identifies that the woodland area to the north-west of the Proposed Development (named "Big Latch") is classed as Long Established of Plantation Origin (LEPO). This area has recently been felled. A further area to the east is also recorded on the AWI (named 'Little Larch'), but this area is used for pasture and does not contain any woodland.	anticipated to be any net loss in habitat as a result of the Proposed Development. There would be no requirement to fell any trees in the adjacent woodland as a result of the works, including upgrading of nearby tracks.	the Applicant's GEMPs, statutory consents and authorisations, and industry best practise and guidance, including pollution prevention guidance. With the implementation of these mitigation measures, no effects on the surrounding environment are anticipated.
Ornithology	There are no recent records of birds of conservation concern nesting or roosting within the vicinity of the Proposed Development. The site and adjacent habitats are of low ecological value for bird species, however, these habitats will support a range of common nesting birds across the wider area.	The Proposed Development is not anticipated to pose a notable effect to any bird species of conservation concern. During construction, any potential disturbance effects could be reduced or eliminated by adopting appropriate mitigation to minimise disturbance, which would be outlined within the Applicant's SPPs and GEMPs.	During construction, any potential disturbance effects would be reduced or eliminated by adopting appropriate mitigation to minimise disturbance, outlined within the SPPs (see <b>Appendix C</b> ) and GEMPs (see <b>Appendix B</b> ).
Forestry	The site of the Proposed Development is not within an area of forestry.	The Proposed Development would not result in the felling of any areas of commercial plantation.	No mitigation required.
Cultural Heritage	Designations:         The closest Scheduled Monument is Craig Hill, Fort and Broch, approximately 3 km to the south-west of the Proposed Development. <u>Assets</u> There are no heritage assets listed within 50 m of the site. The nearest heritage asset is located approximately 0.5 km to the west and is noted as a Roman temporary camp and a site of	No direct or indirect effects on cultural heritage assets are anticipated for any designated sites or assets within the vicinity of the Proposed Development.	Any archaeological mitigation during construction would be agreed with the archaeological service of the local authority.

<sup>&</sup>lt;sup>5</sup> Available at https://opendata.nature.scot/datasets/snh::ancient-woodland-inventory/about - Accessed January 2025

Replacement of Tower 20 and Installation of Downleads on the Tealing to Arbroath Circuit - Environmental Appraisal



Торіс	Baseline	Potential Effects	Mitigation/Commitments
	crop marks situated approximately 0.5 km to the east of the Proposed Development.		
Traffic and Transport	Access to the site of the Proposed Development would be via the A92 and B978, and would likely utilise existing access tracks to facilitate construction of the Proposed Development.	The Proposed Development would not be expected to generate levels of construction traffic that would pose any capacity issues for the local road network.	An appropriate Construction Traffic Management Plan (CTMP) would be developed to ensure road safety for all road users during construction works. Wheel washing facilities would be considered where relevant to minimise dirt and debris on public roads.
Hydrology, Hydrogeology, Geology and Soils	<u>Geology, Peat and Soils:</u> Bedrock geology is recorded as Dundee Flagstone Formation - Sandstone, siltstone and mudstone, with superficial deposits of till. None of the Proposed Development is situated on or will cross areas of peat. The Proposed Development is situated wholly on mineral soil (Class 0), as classified by the carbon and peatland map 2016.	No development constraints associated with the site's geology are anticipated. There is no potential for the Proposed Development to impact on areas of peat during construction, due to the absence of peat and nature of the Proposed Development. Excavated soil would be stored adjacent to the proposed works during construction, and this would be used to restore and reinstate disturbed areas once works are complete. No significant effects are likely.	The CEMP will include reference to SSEN Transmissions GEMPs, including those related to soil management and oil storage and refuelling. A Peat Landslide Hazard Risk Assessment is not considered necessary in this instance as the development is not situated on peat nor will it cross peat.
	<u>Hydrology:</u> There are no watercourses within 100m of the Proposed Development. The closest watercourse is Sweet Burn approximately 580 m to the south-west. SEPA's Indicative River and Coastal Flood Map indicates the Site is not identified as being at risk of any form of flooding. There is no known private water supply infrastructure in the vicinity of the Proposed Development.	There are no watercourses within 100m of the Proposed Development and therefore no potential effects on watercourses are likely	Construction works would be carried out in line with the Applicant's GEMPs and a site-specific CEMP. This document would detail how the successful Principal Contractor would manage the works in accordance with the Applicant's GEMPs, statutory consents and authorisations, and industry best practise and guidance, including pollution prevention guidance.



Торіс	Baseline	Potential Effects	Mitigation/Commitments
Noise and Vibration	The closest property in the vicinity of the Proposed Development is Brookdale approximately 370 m to the south- east. Other properties such as Braeside, Gagie Smallholdings and Brighty are all over 500 m distant.	The Proposed Development is not anticipated to lead to an increase in noise or vibration effects. Sources of construction noise and vibration related to the Proposed Development would include construction traffic and construction works. Construction noise and vibration is considered to be short- term and intermittent and working hours would be restricted to 07:00 – 19:00 Monday to Friday and 07:00 – 13:00 on Saturday, or other hours to be agreed with Angus Council. With this in place, it is anticipated that noise disturbance would be minimised. No significant effects are likely.	Construction noise and vibration can be managed through the CEMP which will include mitigation measures to minimise impacts in line with Best Practicable Means as outlined in British Standard 5228:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites, Part 1: Noise and Part 2: Vibration.
Air Quality	The Proposed Development is not located within an Air Quality Management area (AQMA).	On-site plant, construction traffic and construction activities have the potential to generate and disperse dust and airborne particulate matter. However, the nature of construction activities means these would be localised, short term and intermittent. Subject to the adherence to best practice measures, as would be set out in a CEMP, effects on air quality could be controlled. No significant effects are likely.	Subject to the adherence to best practice measures, as set out in the CEMP, effects on air quality would be controlled.
Land Use and Recreation	The Proposed Development would be located on agricultural land, which is dominant in the local area. The site of the Proposed development is located wholly on land classed as 3.1 (Land capable of producing consistently high yields of a narrow range of crops).	Effects on land use would be minimal given the new towers would replace existing towers of a similar scale, and no additional land take is required for the downleads. There may be minor disruption during the construction period for users of the adjacent core path as a result of an increase in	Compliance with the Construction Environment Management Plan (CEMP) would minimise any potential effects.



Торіс	Baseline	Potential Effects	Mitigation/Commitments
	There are no major tourist attractions in the immediate vicinity of the Proposed Development. Existing tracks pass close by the Proposed Development, one of which is Core Path 202: Brighty to West Wellbank. There are a number of other paths within 1 km of the Proposed Development.	construction activity, but this would be over a short-term period only. No significant effects are likely.	



# 4. SUMMARY OF MITIGATION MEASURES

- 4.1.1 The Applicant is proposing the following measures to minimise any potential effects of the Proposed Development as part of its standard working procedures:
  - SSEN Transmission has developed Species Protection Plans (SPPs) for construction works that may
    negatively impact upon protected species, including birds. The SPPs outline the procedures that must
    be followed where there is a potential for protected species to be present. Each SPP outlines the
    responsibilities of the Applicant and its Contractors, legislative protection for the protected species,
    best practice measures to follow and an approved methodology for carrying out certain mitigation
    activities. This suite of SPPs has been approved by NatureScot and would be adopted where relevant
    to the project;
  - SSEN Transmission has developed General Environmental Management Plans (GEMPs) relating to activities and issues likely to be encountered. These plans contain both generic and specific guidance and should be incorporated into Environmental Management Plans (EMPs) where appropriate;
  - A Construction Environment Management Plan (CEMP) would be developed by the appointed contractor during the pre-construction phase. The principal objective of this document is to provide information on the proposed infrastructure and to aid in avoiding, minimising and controlling adverse environmental impacts associated with the Proposed Development. Furthermore, this document will aim to define good practice as well as specific actions required to implement mitigation identified in the Environmental Appraisal, the planning process and / or other licencing or consenting processes. Mitigation measures relevant to the overhead line will be incorporated into the relevant CEMP for the project. The CEMP would be updated during the pre-construction phase and would form part of the contract documents between SSEN Transmission and the appointed construction contractor;
  - Advice from an Environmental Clerk of Works (ECoW) on site specific issues during the construction of the Proposed Development;
  - The timing of construction activities would in general be undertaken during daytime periods to limit disruption to any local residents;
  - An appropriate Construction Traffic Management Plan would be developed to ensure road safety for all road users during construction works; and
  - Site restoration measures specific to the proposal to ensure that disturbed ground is reinstated as quickly as possible on completion of the works.