Scottish & Southern Electricity Networks

TRANSMISSION

Dunoon to Loch Long 132 kV OHL Rebuild

Environmental Impact Assessment

Volume 1 | Non-Technical Summary

January 2023

Scottish Hydro Electric Transmission plc
Inveralmond House
200 Dunkeld Road
Perth PH1 3AQ
Tel: +44 (0)1738 456 000
www.ssen-transmission.co.uk

Scottish & Southern Electricity Networks
TRANSMISSION

CONTENTS

LIST OF ABBREVIATIONS

ARSG	Argyll Raptor Study Group
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
ECU	Energy Consents Unit (Department of the Scottish Government)
EIA	Environmental Impact Assessment
GEMP	General Environmental Management Plan
GWDTE	Ground Water Dependent Terrestrial Ecosystem
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
IEF	Important Ecological Features
LoD	Limit of Deviation
NPF	National Planning Framework (Scotland)
NTS	Non-Technical Summary
OHL	Overhead Line
RSPB	Royal Society for the Protection of Birds
SEPA	Scottish Environment Protection Agency
s37	Section 37 of the Electricity Act 1989
SHEPD	Scottish Hydro Electric Power Distribution
SpPP	Species Protection Plan
SSEN Transmission	Scottish and Southern Electricity Networks Transmission

1. INTRODUCTION

1.1 Background

1.1.1 This Non-Technical Summary (NTS) forms part of the Environmental Impact Assessment Report ("EIA Report") prepared on behalf of Scottish Hydro Electric Transmission ('the Applicant'), who, operating and known as Scottish and Southern Electricity Networks Transmission ("SSEN Transmission"), owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands. In this document, the Applicant and SSEN Transmission are used interchangeably unless the context requires otherwise.

1.1.2 The EIA Report has been prepared to accompany an application for consent under section 37 of the Electricity Act 1989[1]. The application seeks consent to construct and operate a double circuit steel structure 132 kV overhead transmission line ("OHL") between their existing Dunoon Substation and Tower 15 of the existing line, located to the west of the Loch Long crossing (hereafter referred to as the Proposed Development) extending approximately to 18 km. The Proposed Development is located within two planning authority areas, Loch Lomond and the Trossachs National Park Authority to the north and Argyll and Bute Council to the south.

1.1.3 In addition, the Applicant is seeking consent for three temporary diversions of the existing 132 kV OHL, at Dunoon Substation (approximately 250 m), Pucks Glen (approximately 1,050 m) and Glen Finart (approximately 1,350 m) to facilitate safe construction of the proposed OHL alignment at these locations.

1.1.4 The Environmental Impact Assessment (EIA) Report has been prepared under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[2] (hereafter referred to as 'the EIA Regulations').

1.1.5 The aim of this NTS is to summarise the content and the main findings of the EIA Report in a clear and consistent manner to assist the public in understanding what the environmental effects of the Proposed Development are likely to be. The full EIA Report (Volume 2: EIA Report; Volume 3: Figures; Volume 4: Technical Appendices) provides a more detailed description of the Proposed Development, and the findings of the environmental assessments undertaken.

1.2 Environmental Impact Assessment (EIA)

1.2.1 The primary purpose of the EIA process is to inform the decision maker of the environmental implications of a proposed development. Through this process information is collected about the possible environmental impacts of the development. These findings are evaluated and presented in a fully transparent manner to assist consultation, and to enable the decision makers to take account of impacts in their determining whether to provide consent for the development. Further to that, the EIA also helps to identify controls over the construction or operation of the proposed development that are required to manage and mitigate (lessen / reduce) impacts.

1.2.2 The EIA Regulations require that an EIA must be undertaken before permission is granted for certain types of development. The Proposed Development falls within one of the categories requiring EIA and therefore one has been prepared to accompany the s37 consent. The EIA has been undertaken in accordance with the EIA Regulations and the scope of the assessments was agreed with the Scottish Government ECU, Argyll and Bute Council, Loch Lomond and The Trossachs National Park and other statutory and non-statutory consultees.

[1] UK Government (1989). The Electricity Act 1989. Available at: https://www.legislation.gov.uk/ukpga/1989/29/contents
[2] Scottish Government (2017). The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at: https://www.legislation.gov.uk/ssi/2017/101/contents/made

1.2.3 The findings of the EIA are reported in a document called an EIA Report which was submitted with the s37 consent to the ECU. Electronic versions of the application, including this EIA Report are available to download from the Applicant's website:

https://www.ssen-transmission.co.uk/projects/dunoon/

1.2.4 The EIA Report can also be viewed via the ECU's website:

www.energyconsents.scot

1.2.5 This EIA Report is available in other formats if required. For details including costs contact:
Dan Thomas
Consents & Environmental Manager, SSEN Transmission
E-mail: dan.thomas@sse.com

2. THE NEED FOR THE PROJECT

2.1.1 SSEN Transmission has a licence obligation to invest in its existing assets to maintain network health and condition; thus improving operational flexibility and resilience in line with SSEN Transmission's goal to aim for 100% transmission network reliability for homes and businesses. SSEN Transmission also has a statutory duty under the Electricity Safety Quality and Continuity Regulations 2002[3] to ensure that the electricity transmission network is fit for purpose. This strategic grid reinforcement is deemed to be essential for maintaining long-term security of electricity supply supporting sustainable economic development.

2.1.2 Due to the need to replace existing assets as a result of their deteriorating age and condition, the Applicant is progressing the Proposed Development to maintain the necessary transmission capacity in accordance with the National Electricity Transmission System Security and Quality of Supply Standards[4].

2.1.3 The Scottish Government has published the revised draft for the National Planning Framework 4 (NPF4)[5], which is due to be adopted in February 2023 and which supersedes and replaces NPF3[6]. The need for a high voltage electricity transmission network is included within the Revised Draft of NPF4 as "*New and/or replacement upgraded on and offshore high voltage electricity transmission lines, cables and interconnectors of 132kv or more*". The NPF4 confirms that the Proposed Development is required to support the delivery of an enhanced high voltage electricity transmission grid which is identified as vital in meeting national targets for electricity generation, statutory climate change targets and the security of energy supply.

2.1.4 The Proposed Development has also been recommended to '*Proceed*' by the Electricity System Operator through the Network Options Assessment (NOA) in 2017/18[7], 2018/19[8] and 2019/20[9]. Further information is provided in the Planning Statement which accompanies this s37 application.

2.1.5 The Proposed Development is technically and economically justified to meet the current and future requirements of the Applicant and the wider UK transmission system.

[3] UK Government (2002). The Electricity Safety, Quality and Continuity Regulations 2002. Available at: https://www.legislation.gov.uk/uksi/2002/2665/contents/made
[4] National Electricity Transmission System Security and Quality of Supply Standard, Version 2.4, (2019). Available at: https://www.nationalgrideso.com/codes/security-and-quality-supply-standards?code-documents
[5] Scottish Government (2022). Revised Draft National Planning Framework 4. Available at: https://www.transformingplanning.scot/national-planning-framework/revised-draft-npf4/
[6] Scottish Government (2019). National Planning Framework 3: monitoring report (2019). Available at: https://www.gov.scot/publications/national-planning-framework-3-monitoring-report/pages/3/
[7] National Grid (2018). Network Options Assessment 2017/2018. Available at: https://www.nationalgrideso.com/document/106481/download
[8] National Grid (2019). Network Options Assessment 2018/2019. Available at: https://www.nationalgrideso.com/document/137321/download
[9] National Grid (2020). Network Options Assessment 2019/2020. Available at: https://www.nationalgrideso.com/document/162356/download

3. CONSIDERATION OF ALTERNATIVES

3.1.1 The Applicant is obliged under section 9 of the Electricity Act 1989 to consider technical, economic and environmental factors in evaluating the alternatives for the Proposed Development, whilst identifying a solution to the objectives of the Proposed Development. The EIA Regulations also require reasonable alternatives to be studied by the Applicant, which are relevant to the Proposed Development and its specific characteristics. The following alternatives have been considered:

- the "do-nothing" scenario;
- underground cable and subsea cable options; and
- alternative routes and alignments for the Proposed Development.

3.1 "Do-Nothing" scenario (including refurbishment of existing OHL)

3.1.1 This scenario assumes that the Proposed Development does not proceed and that the asset remains as it is at present. The "do-nothing" scenario would result in continuing poor performance of an ageing asset, with increased faults occurring during periods of adverse weather. A capability study was undertaken in February 2019[10] of the existing OHL to see if it was suitable for upgrading. The outcome of this study showed that almost half of the existing towers were in an unsatisfactory condition. Records for the existing OHL circuits show poor performance in terms of electrical faults that even refurbishing and reconductoring the existing OHL alignment would not resolve. Therefore, in order to ensure security of supply and meet current standards, a new connection is required to replace the existing OHL alignment. The do-nothing scenario has therefore been deemed to not be a suitable alternative and was discounted.

3.2 Underground cable and subsea cable options

3.2.1 Different geographical connection options were considered. A study was undertaken in September 2020[11] to assess the feasibility of underground cable and subsea cable options to provide a new connection. Due to the terrain of the area the installation of these solutions would prove challenging and result in increased risks compared to rebuilding the existing OHL. These solutions would also introduce maintenance challenges when compared to rebuilding the OHL. In the event of a fault on an OHL, the fault can usually be identified and rectified in a matter of hours/ days whereas a fault in an underground or subsea cable could take much longer to fix, potentially weeks/ months which may compromise the electricity supply to Dunoon. In addition, the estimated costs associated with these solutions would be significantly greater than the costs associated with the rebuilding of the existing OHL. Therefore underground and subsea cables have been deemed unsuitable as an alternative to the OHL rebuild and have not been progressed.

3.3 Alternative routes and alignments for the Proposed Development

3.3.1 There are many restrictions to consider in creating and maintaining the infrastructure network. Alternate routes and alignments have been considered and are described below.

3.3.2 Route options[12] were identified through considering the most notable environmental and technical constraints. Considerations included a review of the steps outlined in SSEN Transmission's Routeing Guidance[13]. Whilst the routeing process was environmentally design-led, fundamental technical constraints such as terrain were also considered.

[10] WSP, Scottish & Southern Electricity Networks (2019). Dunoon Reconductoring, Stage 2 Line Modelling and Simplified Design Study, February 2019
[11] WSP (2020), Dunoon OHL Replacement, Cable Options Report
[12] SSEN Transmission (2021) Dunoon to Loch Long 132 kV OHL Replacement – Route Selection Study Report
[13] Scottish & Southern Electricity Networks, 2020. PR-NET-ENV-501: Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above

3.3.3 Following public and stakeholder consultation in October and November 2020, the majority of responses received indicated a preference for a route in close proximity to the existing OHL and highlighted the requirement to balance different sensitivities and receptors in the selection of the Proposed Route. Several responses referred to concerns regarding specific receptors and their comments were considered in the further assessment work that has been undertaken. The Proposed Route was selected following feedback received from the consultation process and further assessment. It was also recognised that the Proposed Route runs through a sensitive environment with challenging terrain. However, the Proposed Route has been selected on the basis that it is considered to provide a balance of environmental, technical and economic factors.

3.3.4 Following route selection, alignment options were identified within the Proposed Route through consideration of environmental and technical constraints. A Preferred Alignment was identified following environmental, engineering and cost appraisal and consulted on with stakeholders and the public.

3.3.5 During this consultation on the preferred alignment the Proposed Route was altered to accommodate an alternative route and alignment due to engineering and access safety concerns associated with the steep terrain of the northern section of the OHL. This approach avoided the requirement for significant civil engineering works to cut into the hill to form access tracks; which would likely be visually detrimental in this upland environment within the National Park.

3.3.6 Further consultation took place and the Preferred Alignment was updated to take account of the change to the alternative alignment and consultation feedback. Changes were made to reduce impacts on forestry loss and operations, private water supplies, landscape and visual impacts and steep terrain. The Proposed Alignment was chosen because it avoids where possible physical, environmental and amenity constraints, was most likely to be acceptable to stakeholders, and was economically viable, considering factors such as altitude, slope, ground conditions and access.

4. DESCRIPTION OF THE PROPOSED DEVELOPMENT

4.1 Overview

4.1.1 The Proposed Development (as shown in **Figure 2 and Figure 3**) would primarily consist of:

- the erection and operation of a replacement double circuit 132 kV OHL, supported by steel lattice towers, between the existing Dunoon substation and existing Tower 15, to the west of the Loch Long crossing; which will be approximately 18 km in length; and
- the erection and operation of temporary single circuit wood pole 132 kV OHL diversions, to facilitate safe erection of the replacement OHL, close to, or on the existing OHL alignment.

4.1.2 Ancillary development which would be required as part of the Proposed Development, or to facilitate its construction and operation:

- the formation of access tracks (permanent, temporary, and upgrades to existing tracks) and the installation of bridges and culverts to facilitate access;
- the upgrade of existing, or creation of new junctions at public road access points;
- working areas around infrastructure to facilitate construction;
- formation of flat areas from which the conductor will be pulled during construction, which will contain earthed metal working surfaces;
- formation of temporary works compounds and work areas from which the helicopter operations can be safely operated;
- tree felling and vegetation clearance to facilitate construction and operation of the Proposed Development;
- measures to protect road and water crossings during construction (scaffolding etc.); and
- works at the existing 132/33 kV Dunoon Substation to facilitate connection of the proposed replacement OHL.

4.1.3 Other associated works are required to facilitate construction of the Proposed Development, or would occur as a consequence of its construction and operation. These works, listed below, do not form part of the description of the Proposed Development and are therefore not assessed in detail in this EIA Report nor included in the s37 application. However, further detail on some of these elements is provided where available, as noted within the relevant chapters. The associated works are:

- removal of redundant towers and OHL of existing transmission line (note that a cumulative assessment is included within the EIA report for these works);
- reconductoring and refurbishment of the existing Loch Long crossing between existing Tower 12 and Tower 15 (note that a cumulative assessment is included within the EIA report for these works);
- modification of the existing 11 kV and 33 kV distribution network in some areas to accommodate the proposed OHL. These works are likely to comprise short sections of undergrounding within the vicinity of the Proposed Development, and would be undertaken by Scottish Hydro Electric Power Distribution (SHEPD). Consent would be sought by SHEPD as required;
- borrow pits and quarries may be required to source stone for the construction of access tracks. Indicative locations and a preliminary appraisal of the potential environmental impacts associated with these works has been included within the assessment chapters where applicable. Separate planning applications for these works would be sought by the Principal Contractor;

- temporary construction compounds would be required along the proposed OHL alignment to facilitate its construction. The final location and design of temporary site compounds would be confirmed by the Principal Contractor and separate planning permissions would be sought as required; and
- public road improvements would be required in some areas to facilitate construction traffic. These are largely expected to be undertaken under permitted development rights held by Argyll and Bute Council. All public road improvement works will be approved by Argyll and Bute Council and individual traffic management plans agreed before works commence.

4.1.4 The Proposed Development would be carried out in five phases, which are described as follows.

4.2 Description of OHL Infrastructure

Steel Lattice Towers

4.2.1 The towers to be used for the Proposed Development will be constructed from fabricated galvanised steel and will be grey in colour. The Proposed Development will use a 'L7(c)' series of lattice steel tower (as shown in **Plate 4.1** below), which can vary in height between 23 m and 44 m (which allows for potential extensions required to maintain conductor ground clearances). The maximum proposed tower height, based on the current assessments is 38.5 m and will be re-assessed on agreement of the final alignment at detailed design stage.

4.2.2 Three basic types of tower are proposed as OHL support structures within the Proposed Development, as follows:

- suspension towers: These are used for straight sections of OHL where there is no need to manage uplift loads on the support structure;
- angle/ tension towers: These are used either for straight sections, where there is a need to manage uplift pressures on the support structure, or where there is a need to change the direction of the OHL alignment; and
- terminal towers: At the southern end of the proposed OHL alignment, the last tower (Tower 77) will be a terminal tower which will tie into the existing Dunoon Substation.

4.2.3 A total of 77 (towers referenced as Towers 1 to 77) are proposed to be constructed between the existing Tower 15 at the Loch Long crossing and the Dunoon Substation as part of the Proposed Development. Towers 1 to 55 are located within the Loch Lomond and the Trossachs National Park Authority and Towers 56 to 77 within Argyll and Bute Council.

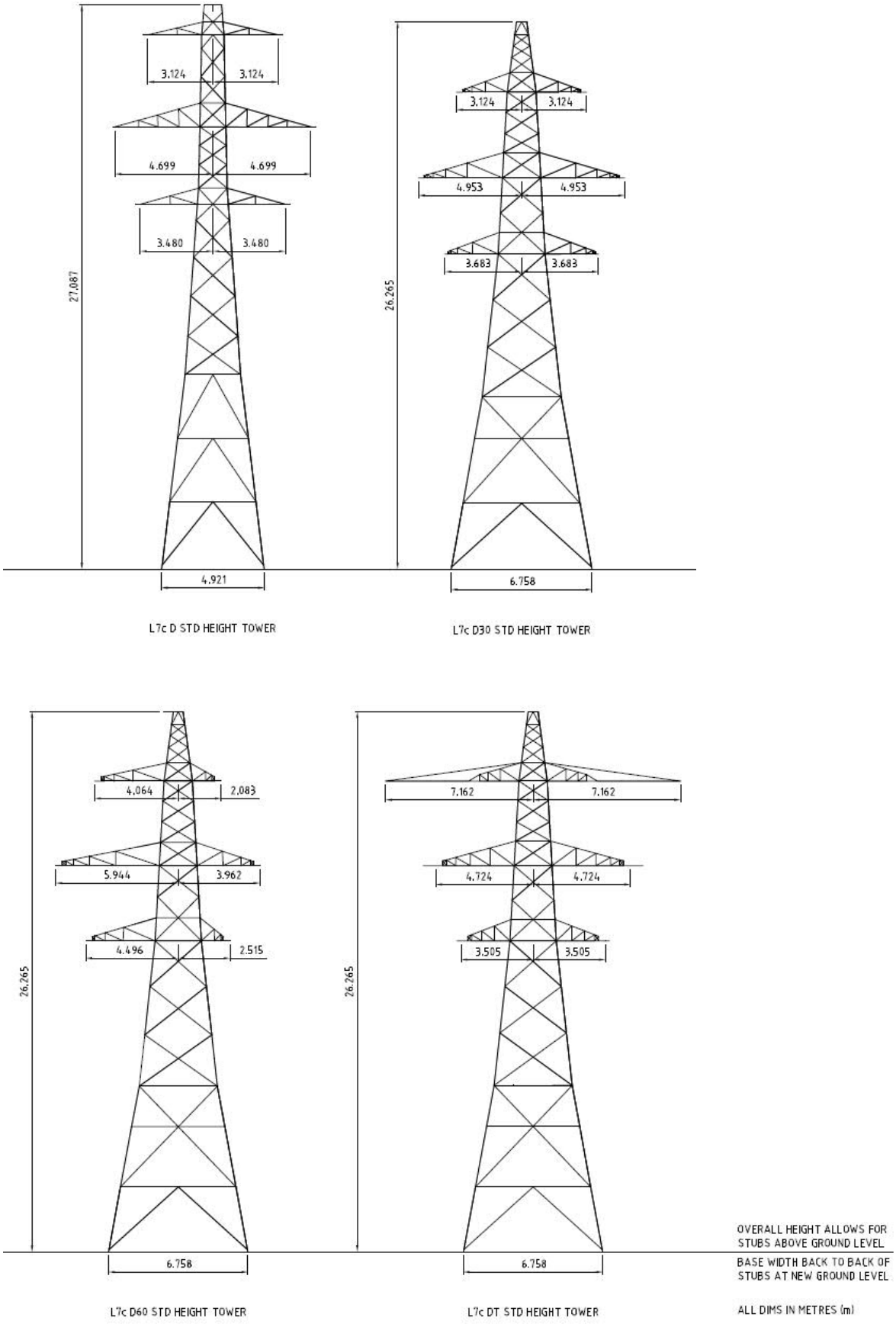
Conductors and Span Length

4.2.4 The towers will carry two circuits, each with three phase conductors supported from insulators attached to the horizontal cross arms on both sides of each steel lattice tower. Insulators are proposed to be glass, but can also be made of other material, either porcelain, or composite materials.

4.2.5 An earth wire conductor with a fibre optic core (referred to as Optical Ground Wire) will be suspended at the top of the tower.

4.2.6 The span length (distance between towers) will vary depending on topography, constraints, and land usage. The current average span from the initial assessment is 228 m with maximum span of 309 m along the preferred alignment.

Plate 2.1: Typical Steel Lattice Standard L7(c) Suspension Tower Design



Limits of Deviation

4.2.7 It is possible therefore that individual tower locations or other infrastructure might alter following geotechnical investigation and detailed design (referred to as micro siting). The Limit of Deviation (LoD) is the maximum distance a proposed structure can be microsited within. Consideration is given to avoiding sensitive environmental features and residential receptors, and minimising impacts on land use.

4.2.8 The LoD on the proposed OHL alignment is 50 m, allowing for each proposed tower to be microsited up to 50 m from its proposed location, including up to 50 m either side of the proposed alignment.

4.2.9 It is possible that further engineering analysis at the detailed design stage might alter the required heights of towers necessary to maintain statutory ground clearance, therefore a vertical LoD parameter is included to allow a height adjustment of up to +/- 20% of the proposed tower heights.

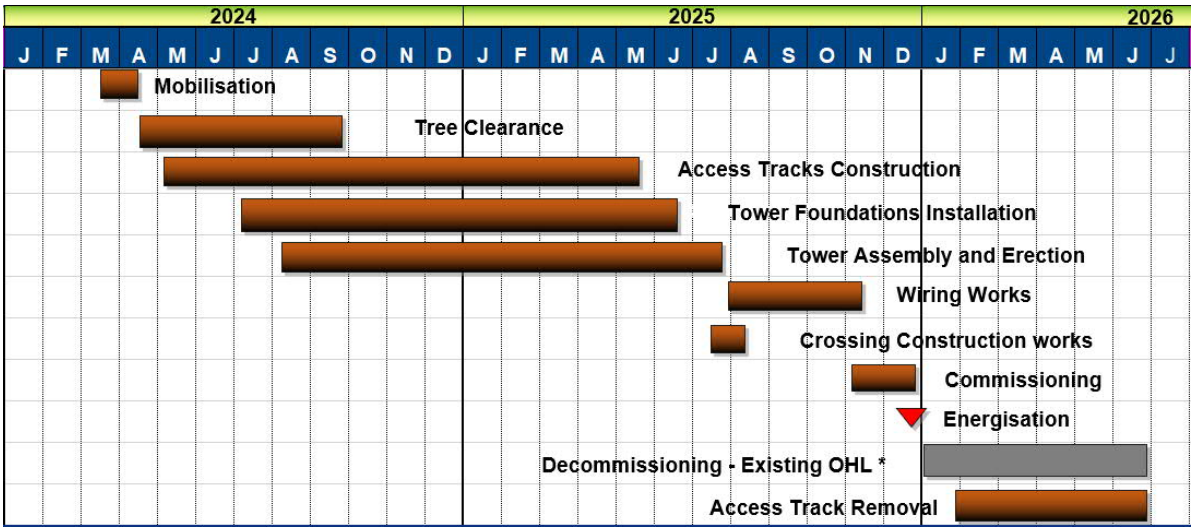
4.2.10 For proposed access tracks, the LoD is 50 m either side from that indicated to allow for changes required associated with detail design or avoidance of sensitive constraints etc.

4.3 Construction Programme

4.3.1 It is anticipated that construction will commence in 2024 (subject to consents and approvals being granted). A provisional construction period of 30 months in total is anticipated, with energisation of the project scheduled for 2026.

4.3.2 The detailed construction phasing and programme would be subject to change as the design progresses. **Table 4-1** presents the high-level construction phasing.

Table 4-1 Construction programme



* Considered a cumulative development within this EIA Report

4.4 Construction Practices and Phasing

Phase 1 – Enabling Works

4.4.1 Enabling works would involve the following activities:

- Setting up temporary site compounds. It is currently anticipated that there will be one main compound required to facilitate construction works (including office provision), alongside an arrangement of small sub-yards, to minimise the number of journeys from the main compounds to the work areas. The locations would be confirmed by the Principal Contractor.

- Moving or undergrounding the existing distribution network infrastructure which are crossed by the OHL;
- Provision of access tracks to the individual tower locations using a combination of existing track upgrades (where available), new permanent tracks and new temporary tracks. Borrow-pits would be used where possible to minimise the volume of imported stone for access track construction. All watercourse crossing engineering works (including both temporary and permanent watercourse crossings) will be in compliance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011[14] and will follow best practices in line with SEPA guidance.
- Installing temporary OHL diversions. Where the proposed OHL is on the same alignment or in close proximity to the existing OHL, to facilitate safe construction of replacement towers and OHL works, a single circuit diversion will be required. The temporary diversion moves one circuit of the existing OHL a safe distance away to allow construction of the new OHL. This maintains the network with at least one circuit in operation. The proposed temporary circuit diversions will use single circuit wood pole 132 kV lines (often referred to as trident lines), as illustrated in **Plate 4.2**.

Plate 4.2: Illustrative image of temporary wood pole.

- Where the proposed OHL alignment passes through woodland or forested areas (and elsewhere), an Operational Corridor is established which is defined by the area which during the life of trees growing, they could grow to a height which would compromise the safe operation of the OHL. Trees are therefore removed within the Operational Corridor to facilitate construction and ensure continued safe operation of the OHL. In general, an Operational Corridor of 81 m through plantation woodland and 60 m through broadleaf woodland has been applied within which trees are to be permanently removed to ensure safe operation of the proposed OHL alignment; additional forestry removal has also been included for new access track formation with a corridor of 20 m.

Phase 2 – Construction Works

4.4.2 The three main elements included within this phase are the construction of the tower foundations, the towers themselves, and conductor stringing.

[14] Scottish Government (2011). The Water Environment (Controlled Activities) (Scotland) Regulations 2011. Available at: https://www.legislation.gov.uk/ssi/2011/209/contents/made

4.4.3 Foundation types and designs for each tower will be confirmed following detailed geotechnical investigation at each tower position. All tower positions will require foundations at each leg, the design of the foundation dependent on the ground conditions; see image **Plate 4.3**.

Plate 4.3: Illustrative Image of Tower Foundation Construction

4.4.4 Tower construction can commence two weeks after the foundations have been cast, subject to weather conditions and concrete curing rates. Towers would either be installed either via crane or heavy lift helicopter, depending on their location; see **Figure 3** for helicopter flight paths.

4.4.5 Prior to stringing the conductors, temporary protection measures (normally netted scaffolds) will be required across public roads and existing access tracks. Winches and tensioners would then be set out across pre-selected section of the OHL and a pilot wire will be pulled through. The conductor would then be pulled through along the pilot wire, tensioned and permanently clamped at each tower.

Phase 3 – Commissioning

4.4.6 An inspection and commissioning procedure would be undertaken to confirm that the Phase 2 works have been completed to satisfaction. Following this, the OHL would be energised.

Phase 4 - Dismantling the existing OHL

4.4.7 Once the existing OHL line is disconnected, earthed and made safe, the phase and earth conductors would be safely lowered to the ground and reeled up in sections. The towers would then be felled through cutting two neighbouring legs at the base of the tower and pulling the tower over. The tower would then be cut up and sent for recycling.

Phase 5 – Reinstatement

4.4.8 All temporary working areas would be reinstated. Subsoil, topsoil and turf would be reinstated where removed for access tracks or tower working sites. Grading would be undertaken and drainage installed, where required. Compound sites would be reinstated and all temporary buildings and materials removed. Tree re-planting will be undertaken where forestry removal occurred along new temporary access tracks or temporary line diversions.

Construction Environmental Management

4.4.9 A Construction Environmental Management Plan (CEMP) will be implemented during construction which will include measures to manage risks associated with pollution of water, soils, air and human health (including construction noise). It will include the commitments and mitigation detailed in the EIA Report, statutory consents and authorisations, the Applicant's own General Environmental Management Plans (GEMP) and Species Protection Plans (SpPP) and industry best practice and guidance.

4.4.10 The CEMP would be implemented and managed by an environmental professional, with support from other environmental specialists as required.

Construction Employment and Hours of Work

4.4.11 Employment of construction staff will be the responsibility of the Principal Contractor but the Applicant encourages the Principal Contractor to make use of suitable labour and resources from areas local to the location of the works.

4.4.12 Construction activities will, in general, be undertaken during daytime periods only. For weekdays, this will involve work between approximately 07:00 to 19:00 in the summer and 07:30 to 17:30 (or as daylight allows) in the winter. Seven day working will be required due to the phased nature of the works, limitations of outage availability and working patterns of some contractors.

Construction Traffic

4.4.13 Construction traffic would include staff journeys as well as vehicle movements for works such as upgrading access routes and deliveries. The Principal Contractor would prepare a Detailed Construction Traffic Management Plan (CTMP), which would be agreed by Argyll and Bute Council and Loch Lomond and The Trossachs National Park Authority. This document would set out the measures to reduce impacts of construction traffic on the road networks.

4.5 Operation and Management of the Transmission Connection

4.5.1 In general, an OHL requires very little maintenance. Regular inspections are undertaken to identify any unacceptable deterioration of components so that they can be replaced before failure.

4.5.2 The Operational Corridor of the OHL is also 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, e.g. gorse and *Rhododendron*, 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.

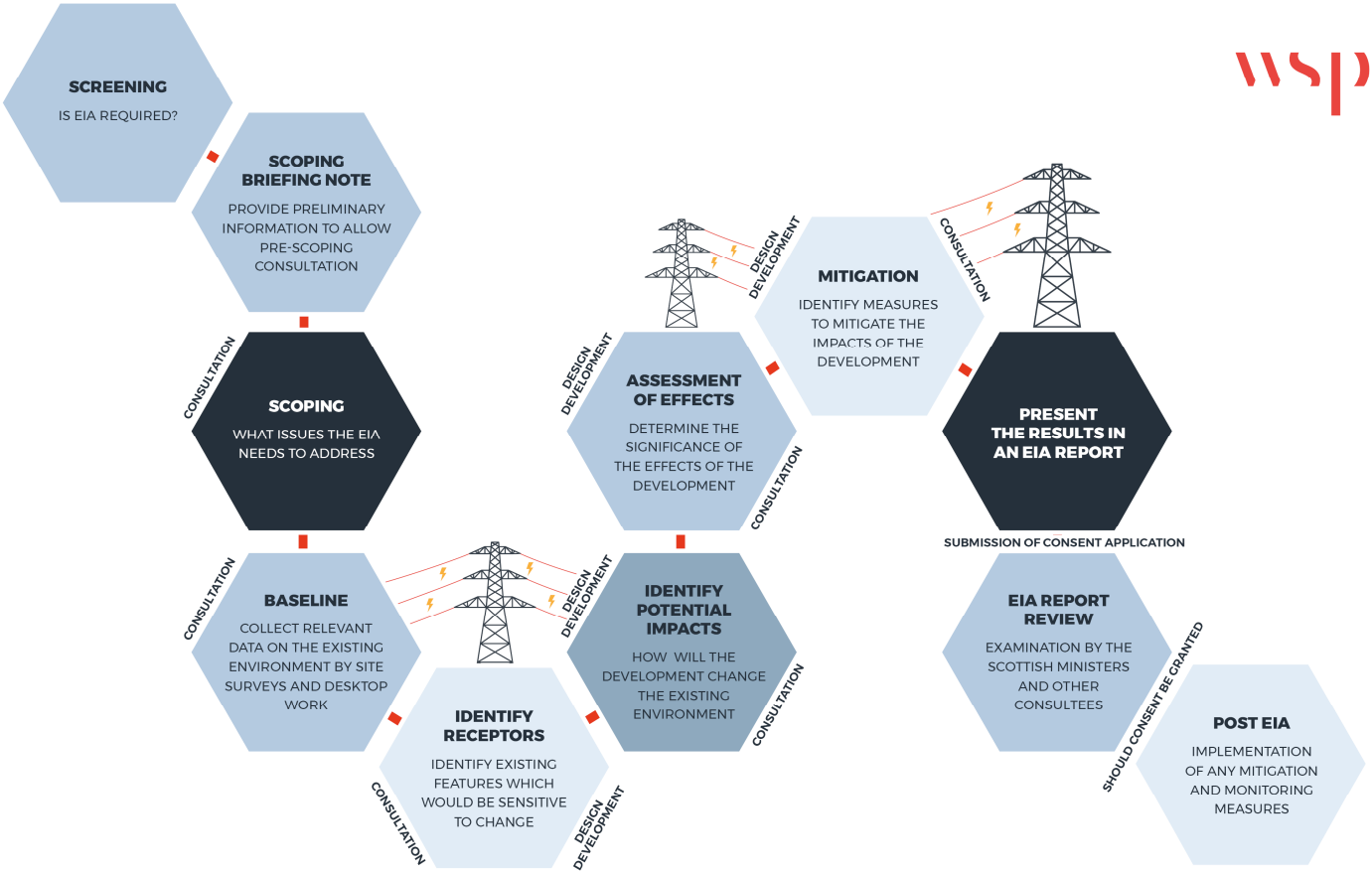
4.5.3 From time to time, inclement weather, storms or lightning can cause damage to either the insulators or the conductors. If conductors are damaged, short sections may have to be replaced. Insulators and conductors are normally replaced after about 40 years, and towers painted every 15 to 20 years.

5. EIA APPROACH, SCOPE AND CONSULTATION

5.1 EIA Process and Assessment

5.1.1 EIA is a process that considers how a Proposed Development will change existing environmental conditions and what the consequences of such changes will be. Mitigation measures are recommended to prevent, reduce or remedy any potential adverse environmental effects identified. Following the implementation of mitigation measures, an assessment of the significance of any remaining (or residual) effects is undertaken. The EIA process, summarised in Chart 1, informs both the project design and planning decision making processes.

Chart 1: Environmental Impact Assessment Process



5.1.2 The EIA Report contains the information specified in the EIA Regulations and the approach to the assessment has been informed by current best practice guidance.

5.1.3 The applicable assessment periods of the Proposed Development lifecycle are 'Construction period' and the 'Operational period'. As the Proposed Development concerns construction of permanent infrastructure required for the continuing safe supply of electricity to the wider community, with a view to maintain/ repair/ upgrade for perpetuity, decommissioning of the Proposed Development is not considered applicable and is scoped out of the EIA. Decommissioning of the existing OHL has been assessed as part of a cumulative assessment (see below).

5.1.4 Embedded mitigation, which comprises both design features and construction good practice (includes the Applicant's GEMPs and SpPPs), is assumed to be in place prior to impact assessment and effectively forms part of the Proposed Development. Following the initial assessment,

additional mitigation measures have been recommended to prevent, reduce or remedy any potentially significant environmental effects identified.

Cumulative Effects

5.1.5 The Proposed Development has also been considered 'in-combination' with other elements of the wider project and to ensure the combined impact is considered, this is referred to as an in-combination cumulative impact. The wider project elements are as follows:

- removal of the existing OHL and towers;
- reconductoring of the existing Loch Long crossing (replacing the wires which carry the current and the associated fittings and fixtures) but reusing the four existing special towers which support the Loch Long crossing span; although some upgrades to theses towers may be necessary.

5.1.6 Within the area surrounding the Proposed Development Forestry and Land Scotland are undertaking a programme of felling related to *Phytophthora ramorum*. It does not meet the criteria for being included as a cumulative development and in general is being treated as a change to the future baseline of the area. However, for the assessment of landscape and visual impacts and forestry impacts, it has been assessed as part of the in-combination cumulative assessment due to the evolving situation relating to this felling.

5.1.7 Additionally, an assessment of the combined effects from individual assessment topics on a single common sensitive receptor, such as residents or roads, has been included. This is another form of cumulative impact known as an 'effect-interaction'.

5.2 Stakeholder Consultation

5.2.1 An important part of the EIA process involves consulting with a variety of organisations and individuals. This process is important both for allowing interested parties to express their views or concerns about a proposal, but also to highlight any specific issues to be assessed or reviewed through the EIA. This stakeholder consultation takes place throughout the design and assessment process.

5.2.2 Public consultation on the alignment was held in August and September 2021 which comprised a virtual public exhibition event over three days, and longer period of general consultation. Additional consultation was undertaken in in August and September 2022, following a change to the northern section, which comprised in person and virtual consultation. Responses to the public consultation events have been recorded in a separate Report on Consultation which accompanies the s37 application and which details how the responses were taken into consideration.

5.3 EIA Scoping

5.3.1 Scoping an EIA is the process used to agree the EIA approach and assessment methodology with key consultees before the EIA Report is produced. An EIA Scoping request was issued to the ECU on 16th February 2022. Following the submission of the EIA Scoping request, the northern section of the alignment was changed which required further consultation with the ECU and other key consultees.

5.3.2 A Scoping Opinion was provided by the ECU on 19th July 2022 which included additional responses as a result of the change in the northern section of the Proposed Development.

5.3.3 Through EIA Scoping and other stakeholder consultation it was agreed that the following environmental topics were considered likely to have significant effects resulting from the Proposed Development or required additional information. These topics are therefore addressed in the EIA and discussed in the EIA Report:

- Landscape and Visual Impact;
- Ecology and Nature Conservation;
- Ornithology;
- Cultural Heritage;
- Hydrology, Hydrogeology, Geology and Soils;
- Noise and Vibration;
- Forestry; and
- Traffic and Transport.

5.3.4 For the following topics, significant effects were not considered to be likely and therefore it was agreed that they did not require further assessment within the EIA process. Justification for this approach is detailed in the EIA Scoping Report and subsequent scoping consultations, details of which are included within the EIA Report:

- Land Use;
- Recreation and Tourism ;
- Air Quality and Climate Change ;
- Material Asserts and Waste;
- Population and Human Health;
- Major Accidents and Disasters;
- Electric and Magnetic Fields; and
- Radio and TV Interference.

5.3.5 Prior to submission of the application a Gatecheck Report was issued to the ECU which outlined how the consultee comments provided in the Scoping Opinion have been addressed and taken forward in the EIA Report.

6. ENVIRONMENTAL EFFECTS OF THE PROPOSED DEVELOPMENT

6.1 Introduction

6.1.1 This section summarises the key findings of the EIA and the significance of potential effects. **Figure 4** illustrates the environmental designations relevant to this NTS.

6.2 Landscape and Visual Impact

6.2.1 **Chapter 6: Landscape and Visual** reports the assessment of likely significant effects on the landscape and on visual amenity arising from the Proposed Development during the Construction and Operational Phases. This is based on an assessment of the existing landscape and visual situation and is informed by mapping, viewpoint photographs and visualisations.

6.2.2 The proposed OHL alignment sits within a landscape that broadly characterised by steep-sided, craggy topped mountains and hills, divided by deep glens, some of which contain narrow lochs, opening into broader straths. The character changes from north to south, with the area north of Strath Eachaig being more rugged, whilst the landscape to the south of the Strath is more rounded with gentler slopes, and more settled.

6.2.3 The majority of the Study Area falls within the Loch Lomond and The Trossachs National Park, and a large area falls within the Argyll Forest Park, including Puck's Glen (a deep, woodland gorge with waterfalls which is a popular recreational destination). Benmore Garden and Designed Landscape lies within the Study Area. Sensitive visual receptors within the area include residents, tourists and road users. The assessment considers the sensitivity of the landscape, seascape and visual receptors to the type of development proposed.

6.2.4 The proposed OHL will have taller and bulkier towers than the existing OHL with a wider Operational Corridor. However, the proposed OHL alignment was designed to minimise the number of visual receptors and reduce landscape effects by finding a better 'landscape fit' than the existing OHL wherever possible.

6.2.5 Where significant adverse effects are likely to occur this is predominantly due to the Operational Corridor associated with the Proposed Development, which has a greater landscape effect and is more visible where forestry and woodland have to be removed to accommodate the OHL, tracks and diversions. These adverse effects reduce as existing and proposed planting establishes and matures, and the new towers weather and become more recessive over time; the significance of operational residual effects are considered once forestry has matured.

6.2.6 No residual significant effects on the Special Qualities of the National Park or on the Landscape Units[15] as a whole are likely to occur as a result of the Proposed Development, nor residual significant adverse effects on the Landscape Character Types once the trees have matured.

6.2.7 No significant adverse residual effects are likely to occur on visitors to the gazebo viewpoint in Benmore Botanic Gardens or the Puck's Glen trail, although significant adverse effects are anticipated in Year 1 of the Operational Phase due to the high sensitivity of the receptors and prior to the woodland maturing. Residual effects to residents at Dalinlongart and surrounds, and users of tourism accommodation at Rashfield and Ballochyle Cottage will be beneficial due to the re-routing of the proposed OHL alignment. No significant adverse residual effects are likely to occur once the trees have matured.

[15] Considering the scale at which the landscape is experienced when travelling slowly through the study area, for the purposes of this assessment the landscape has been divided into distinct areas each with their own sense of place, referred to as landscape units.

6.2.8 Additional (secondary) mitigation measures that would reduce potential landscape and visual effects but are not captured by the design or within the key construction and general environmental management plans include:

- implementation of the Forest Design Plan for Ballochyle Forest;
- implementation of the Forest Design Plan for Glenfinart Forest, including reducing the Operational Corridor wayleave from 81 m down to 60 m wide as a result of the change from commercial forest to broadleaf woodland; and
- replacement planting of the broadleaf woodland on the floor of Glenfinart, adjacent to the road through Glen Finart.

6.2.9 Through the successful application of embedded and industry-standard mitigations and the above additional (secondary) mitigations, the EIA concludes that the Proposed Development would not result in residual significant adverse effects on the sensitive landscape and visual receptors. Significant beneficial effects are likely to occur on residents at Dalinlongart and surrounds and on users of tourist accommodation at Rashfield Shielings and Ballochyle Cottage in Strath Eachaig.

6.3 Ecology and Nature Conservation

6.3.1 As detailed within **Chapter 7: Ecology and Nature Conservation** of the EIA Report, a series of desk studies and field surveys were undertaken to determine the baseline natural heritage conditions in the vicinity of the Proposed Development; ornithology is considered separately in Section 6.4.

6.3.2 The desk study included a review of designated sites and pre-existing records of protected or notable species and habitats, and consultation with statutory consultees and natural heritage data providers.

6.3.3 Habitat and protected species field surveys were undertaken between 2020 and 2022. These surveys covered the Proposed Development footprint and adjacent areas which had the potential to be disturbed or affected by the proposals. An initial walkover was completed to determine the habitats' suitability to support specific protected species. Further surveys were later completed to areas found to provide moderate or high suitability to support the following protected species: bat species; badgers; red squirrels; pine martens; otters; water voles; and freshwater pearl mussels.

6.3.4 The habitat survey found that the Proposed Development lies within a predominantly hilly landscape, dominated by conifer plantations. Upland habitat types are more dominant towards the hilltops, which are comprised mainly of acid grassland and heathland habitats, with smaller areas of fen, blanket bog and bracken. The lowland habitats are dominated by grazing pasture with patches of semi-natural and plantation woodland. Several watercourses are present, including the: Little Eachaig River; Eachaig River; and Glenfinart Burn, and their associated tributaries. These three watercourses have associated riparian habitats including woodland of semi-natural origin. The other watercourses are predominately small, unnamed streams which flow downhill into the Holy Loch and Loch Long.

6.3.5 The following were identified as Important Ecological Features (IEFs) for consideration within the EIA Report, based on their confirmed or potential presence within the Proposed Development site and its surrounding area; their geographic context; and potential construction impacts from the Proposed Development:

- Habitats:
  - ancient woodland (based on the Ancient Woodland Inventory);
  - broadleaved, mixed, and yew woodland; and
  - dwarf shrub heath.

- Species:
  - otter;
  - bat species;
  - pine marten; and
  - red squirrel.

6.3.6 The assessment of these IEFs concluded that, in the absence of mitigation, the Proposed Development's construction phase could have an adverse effect on them via: habitat loss; degradation and fragmentation; species mortality and injury; and the loss of, obstruction of, or disturbance to species and their resting sites.

6.3.7 Additional (secondary) construction mitigation measures that are required but are not captured by the design or within the key construction good practice include (but is not limited to) the following:

- a portion of felled tree stems and limbs will be retained in piles (subject to landowner agreement) to help mitigate the loss of habitat connectivity for small mammals; and to create habitat resources for invertebrates; reptiles; and amphibians. This, in turn, will help provide new foraging opportunities for protected species such as pine marten and bats due to a potential greater abundance in their prey species; and
- invasive non-native species will be demarcated by an Ecological Clerk of Works. No works will occur within at least 7 m of identified invasive non-native plant species to prevent further spread.

6.3.8 Through the successful application of embedded and industry-standard mitigations and the above additional (secondary) mitigations, the EIA concludes that the Proposed Development would not result in residual significant effects on the sensitive ecology and nature conservation receptors. Based on the impact avoidance and mitigation measures detailed, it was determined that no significant residual effects remained for the IEFs.

6.4 Ornithology

6.4.1 As detailed within **Chapter 8: Ornithology** of the EIA Report, baseline desk studies and field surveys were undertaken to understand the sensitive bird species and designated sites present within the Proposed Development site[16] and surrounding area. The desk study included a review of information on designated sites and consultation with statutory consultees and ornithology groups, including NatureScot, the Royal Society for the Protection of Birds (RSPB) and the Argyll Raptor Study Group (ARSG), for ornithology records of relevance to the site. Ornithology surveys comprised flight activity, moorland breeding bird, scare breeding bird, lekking black grouse surveys and winter walkover surveys undertaken from November 2020 to August 2021. Surveys targeted the larger species of greatest conservation concern, typically raptors, waterfowl, and waders, as these species are typically more vulnerable to OHL developments.

6.4.2 Two designated sites were identified of relevance to the site. The Holy Loch Local Nature Reserve and Local Nature Conservation Site, notable for estuarine habitats that supports wintering bird assemblages, were located approximately 800 m east of the site. The RSPB and ARSG provided records of sensitive ornithology records in and around the site including records of nesting golden eagle, hen harrier and barn owl, and lekking black grouse.

6.4.3 Limited breeding activity was recorded during surveys in 2021. No raptors, including golden eagle and hen harrier, occupied breeding territories; other breeding target species were limited to common sandpiper in the lowland river valleys. Nesting hen harrier and golden eagle, however, were recorded prior to 2021 and/ or in 2022 in records provided by the ARSG. Surveys identified

[16] The 'site' of the Proposed Development is defined as the proposed OHL alignment plus a 50 m Limit of Deviation (LoD) either side and the extent of all permanent and temporary access and construction areas

low numbers of lekking black grouse in the open upland habitats across the site. Flights of golden eagle, hen harrier and black grouse, among other species, were recorded during the flight activity surveys. A limited number of flights by those species were determined to be at potential risk of collision with the proposed OHL (based on the height of flights as they crossed the proposed OHL alignment).

6.4.4 Based on their presence within the site, the surrounding area and the potential impacts from the Proposed Development; golden eagle, hen harrier and black grouse were identified as key species that required detailed assessment. The assessment concluded that, without the implementation of impact avoidance and mitigation measures, significant effects were anticipated on black grouse as a result of disturbance and displacement during the construction phase; no significant effects were anticipated for golden eagle or hen harrier during construction. No significant effects were predicted for any species during the operational phase, primarily due to the relatively low level of flight activity around the proposed OHL alignment and low likelihood of collision with the OHL.

6.4.5 Additional mitigation measures required that are not captured by design or within the key construction good practice measures includes (but is not limited to) the following:

- mapping and avoidance of black grouse lek sites, particularly in relation to helicopter flights, during the key lekking period around dawn and dusk between March and May; and
- helicopter flights within 1000 m of identified black grouse leks will not be permitted during the key lekking period.

6.4.6 Based on the impact avoidance and mitigation measures detailed, it was determined that no significant residual effects remained for black grouse.

6.5 Cultural Heritage

6.5.1 As detailed within **Chapter 9: Cultural Heritage**, the cultural heritage assessment conducted in relation to the Proposed Development was based on a desk-based assessment, field surveys, and consultation with Historic Environment Scotland (HES).

6.5.2 There were 45 heritage assets included within the baseline related to the assessment of the Proposed Development, with 16 of these heritage assets identified within 250 m of the proposed OHL alignment, 28 within 2 km, and one heritage asset located outwith these areas at the request of HES. The heritage assets range in date from prehistoric to post-medieval and include scheduled monuments, listed buildings, a garden and designed landscape, and several undesignated heritage assets.

6.5.3 The assessment looked at the potential impacts from construction and operation of the Proposed Development. A former sheepfold may be impacted upon during construction, but mitigation to demarcate and avoid this heritage asset should remove these potential impacts. Also during construction, there is the potential for temporary impacts through helicopter flights and other construction activity close to the schedule monument Dun Daraich Fort (SM9190). These impacts in relation to the setting of the fort have the potential for a residual temporary significant effect. The impacts on the fort were a major consideration during the design of the Proposed Development, which sought to minimise impacts as far as possible through careful selection of tower positions. The decision to construct the replacement towers in the Glen Finart valley, immediately adjacent to the existing OHL, however, increased the complexity of the construction works required in order to minimise impacts on the setting of the fort during operation of the Proposed Development.

6.5.4 During operation of the Proposed Development, there is potential for adverse impacts to the setting of 12 heritage assets of low to high value, including the scheduled monuments of Adam's Cave (SM6552) and Dun Daraich Fort (SM9190), none of which result in a significance of effect greater than Slight Adverse, which is not significant in EIA terms. One heritage asset, Ardnadam Farmstead

(WoSAS Pin 45482) has the potential to receive a Slight Beneficial effect, due to the removal of the existing towers that are currently detrimental to its setting.

6.6 Hydrology, Hydrogeology, Geology and Soils

6.6.1 An assessment of construction effects on hydrological, hydrogeological, geological and soils interests, has been undertaken. Baseline conditions for the Proposed Development and surrounding area were established using desk study and site visits.

6.6.2 The following sensitive hydrology, hydrogeology, geology and soil receptors along the Proposed Development have been identified:

- surface water bodies;
- Loch Lomond and The Trossachs National Park;
- soil and peat superficial deposits.
- groundwater bodies;
- Ground Water Dependent Terrestrial Ecosystems (GWDTE);
- private water supplies; and
- flooding.

6.6.3 The assessment considered how the Proposed Development would affect the sensitive receptors listed above through the impacts of pollution of surface watercourses, groundwater and private water supplies; changes to resource availability; short term flood risk increase; loss of peat soils and impacts upon GWDTE during the construction of the Proposed Development.

6.6.4 Through the successful application of embedded and proposed additional mitigation identified through the assessment, it has been concluded that the construction of the Proposed Development would not result in any residual significant effects on any of the sensitive receptors.

6.7 Noise and Vibration

6.7.1 **Chapter 11: Noise and Vibration** of the EIA Report considers the potential noise effects that could arise due to construction noise and vibration resulting from the Proposed Development. The assessment considers noise sensitive receptors within 300 m of the proposed OHL alignment.

6.7.2 Baseline noise monitoring was undertaken at four locations to determine ambient noise levels within the local area. The baseline monitoring results were used to inform the construction noise assessment in accordance with standard assessment methodologies.

6.7.3 All construction activities associated with the Proposed Development are to be undertaken in accordance with the CEMP, which is to be provided and implemented by the Principal Contractor. Noise mitigation will include Best Practicable Means (i.e. up-to-date and effective methods for reducing detrimental environmental effects).

6.7.4 Temporary power generation is required during outage periods of the construction programme. The Proposed Development may generate power using diesel generators at the Dunoon Substation site. Specific mitigation measures for the activity are identified to ensure that the potential adverse effects from this activity are not significant. Mitigation required is in the form of noise attenuating enclosures and noise control limits.

6.7.5 The assessment highlights that for many construction activities, the temporary nature of the activity and the short durations of activities such as rock breaking at access track and OHL tower locations, or vibratory compaction along access track locations, result in no significant effects. In the circumstance where an activity previously anticipated to occur for a longer duration (up to ten

consecutive days) is required, mitigation and management of the activity will be undertaken in line with measures provided in the CEMP.

6.7.6 A qualitative assessment, informed by indicative sound level predictions, has been undertaken to assess the potential effects of helicopter use during the construction phase. The assessment identifies that, although noise control mitigation is limited for this source, significant effects can be minimised by implementing management and mitigation methods such as selection of quieter helicopters, reviewing flight routes to maximise distance to noise sensitive receptors, and provision of information to the public and local residents on operations.

6.8 Forestry

6.8.1 **Chapter 12: Forestry** of the EIA Report reports upon the significance of the predicted residual effects from the construction and operation of the Proposed Development on forest and woodland areas.

6.8.2 The Proposed Development is predicted to result in the direct loss of 70.09 hectares (ha) of commercial woodland, 11.32 ha of broadleaved semi-natural woodland and 3.44 ha of woodland appearing on the Ancient Woodland Inventory (of which 3.08 ha is 1a or 2a Ancient Woodland), due to the requirement to create an Operational Corridor for the construction and safe operation of the proposed OHL, including the creation of access tracks and temporary OHL diversions.

6.8.3 The assessment concluded that the removal of the ancient woodland and the broadleaved semi-natural woodland would result in a significant adverse effect on both woodland types, despite potential opportunities to reduce the amount of felling, subject to further detailed design. No significant effects were predicted for the removal of commercial woodland.

6.8.4 The Applicant is committed to making arrangements to plant the equivalent area of woodland as Compensatory Planting, meeting the Scottish Government's Control of Woodland Removal Policy[17] objective of no net loss of woodland.

6.8.5 The creation of the Operational Corridor would result in wider potential indirect effects on the surrounding woodland areas. These areas would be subject to potential increased risk of damage (windthrow). As a result, the Applicant has produced a series of Woodland Reports to incorporate the Proposed Development within ongoing forest management activities. The Woodland Reports identify further areas of felling outwith the Operational Corridor to leave a windfirm edge. Any felling undertaken outwith the Operational Corridor would be solely under the control of the relevant landowner (and not the Applicant).

6.8.6 The assessment identified the potential for significant effects (pre-mitigation) on forest management, due to the requirement for forest managers to incorporate the felling requirements for the Operational Corridor into their long-term forest plans. The Applicant has proposed mitigation in the form of a commitment to develop 'Woodland Reports' for each of the forests and woodlands affected by the Proposed Development (five in total). This mitigation is deemed sufficient to reduce the residual effect on forest management to not significant.

6.8.7 In most cases, no significant effects on forest operations access were identified. However, in the case of sites with extreme slopes above the Operational Corridor, commercial forestry may be unviable in the future and the direct effect was therefore assessed as significant and adverse, despite the opportunity to convert productive forest to non-commercial, predominantly native woodland in the future.

[17] Forestry Commission Scotland (2014). Policy on Control of Woodland Removal, Available at: https://forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal

6.8.8 Additional good practice measures are identified for implementation on land outwith the Operational Corridor, for example additional felling to deliver a more natural landscaped and wind firm edge; or to include additional planting of native species to reduce the effective width of the Operational Corridor where this ties in with Woodland Management plans. These measures can only be undertaken with the agreement of the affected landowner. It is the intention of the Applicant to encourage the landowners to adopt this good practice in terms of redesigning current long-term forest plans to comply with and where possible exceed the requirements of UK Forestry Standard[18].

6.9 Traffic and Transport

6.9.1 **Chapter 13: Traffic and Transport** of the EIA Report considers the likely significant effects on receptors along the transport routes resulting from vehicle movements associated with the construction of the Proposed Development.

6.9.2 The Proposed Development during the construction phase would be accessed directly from a number of construction accesses as detailed in the supporting Construction Traffic Management Plan (CTMP) prepared by the Principal Contractor. To gain access to the Proposed Development site, junctions with the public highway will be required. Some will be existing junctions requiring minimal improvements and others a combination of both new permanent and temporary access junctions. The access junctions will be spread across a number of roads within the vicinity of the Proposed Development and will provide access to the on-site access tracks. All works in relation to construction of the site accesses, whether temporary or permanent will be carefully managed through the CTMP and CEMP.

6.9.3 During the construction phase of the Proposed Development, which is expected to last up to 30 months, the traffic which will be required to access the Site will be: staff transport; deliveries of construction equipment, materials, machinery and heavy lift cranes.

6.9.4 Based on the above, the peak traffic flows per day associated with the Proposed Development would occur on the A83 Trunk Road, where there would be 142 vehicle movements (76 car/light goods vehicles and 67 heavy goods vehicles (HGV)s) per day. Note this accounts for two-way trips, to and from the Proposed Development site.

6.9.5 The increase in total traffic movements when using the total peak movements for both HGV and non-HGV traffic were shown to be statistically low on the local road network. When taking HGV traffic alone however, this was shown to be above the guidance thresholds for undertaking detailed assessment on a number of Links within the Study Area.

6.9.6 The Proposed Development will lead to increased traffic volumes on a number of roads in the vicinity of the Proposed Development site during the construction phase. These will be of a temporary timescale and transitory in nature.

6.9.7 The assessment has determined that prior to the implementation of mitigation, a significant impact could be expected in relation to Accidents and Safety for sections of the proposed access routes. All other indicators indicate a non-significant effect on receptors within the Study Area; the effects would be temporary and reversible.

6.9.8 A range of mitigation measures are proposed, including the implementation of a comprehensive CTMP which would be agreed in advance with Argyll and Bute Council. The proposed mitigation would reduce the effects of general construction traffic on the study network; the effects would be temporary and reversible.

[18] Forestry Commission (2017). United Kingdom Forestry Standard (UKFS), Available at: https://www.gov.uk/government/publications/the-uk-forestry-standard

6.10 Cumulative Assessment

In-Combination

6.10.1 The above assessments considered in-combination cumulative effects as discussed in Section 5 of this NTS. No significant in-combination effects were identified with the exception of temporary landscape effects within the Glen Finart and Creachan Mòr Landscape Units and visual effects for residents at Barnacabber Farm and proposed holiday dwellings within Glen Finart predominantly due to the combination of the Proposed Development construction in combination with extended construction activity duration due to the subsequent decommissioning of the existing OHL and potential felling of larch related to *Phytophthora ramorum.*

Effect Interactions

6.10.2 Cumulative effect interactions (as discussed in Section 5 of this NTS) were considered on residents and road users.

6.10.3 No operational cumulative effects were identified on residents. During the construction phase there is the potential for effect interactions on:

- residents in Glen Finart, Ballochyle and Ardnam Farmstead from a combination of visual effects and noise effects; and
- residents in Glen Finart, Ballochyle and Ardnam Farmstead from a combination of visual effects and vibration effects.

6.10.4 For activities such as piling and rock breaking consideration will be given to a noise barrier which would provide full line of sight screening from the Noise Sensitive Receptor, where practicable, to minimise significant effects.

6.10.5 This is considered to result in an adverse temporary cumulative effect on the residents of these properties. The effect will occur over a short temporal scale and during this time may result in a significant cumulative effect.

6.10.6 For road users visual impacts from the road network surrounding the Proposed Development have been assessed in addition to impacts on traffic and transport for the construction phase. Considering the variable nature of traffic impacts throughout the construction period and their level of significance it is considered that cumulative impacts will not result in significant cumulative impacts upon the identified receptors.

7. CONCLUSION

7.1.1 The Applicant is proposing to replace the OHL between the existing Dunoon Substation and Tower 15, to the west of the Loch Long crossing. Works would involve the erection of a replacement 132 kV OHL, temporary OHL diversions and works at the existing Dunoon Substation to facilitate the connection of the new OHL. Associated works would also include establishing construction and maintenance accesses, forestry removal, and measures to protect road and water crossings.

7.1.2 The need for the project is driven by the existing electricity transmission connection to Dunoon Substation coming to the end of its operational life; the OHL route crosses very steep and exposed terrain and has a very high fault rate associated with it during high winds. The Applicant, as the owner and operator of the transmission network, is obligated to carry out the Proposed Development in the most efficient, cost effective and co-ordinated manner while minimising potential environmental impacts.

7.1.3 Consultation with statutory and non-statutory consultees was carried out throughout the EIA and Scoping process, in addition to virtual and in person public exhibitions, in order to invite comment on the Proposed Development itself and specific areas of environmental assessment to incorporate into the EIA.

7.1.4 Subject to implementation of the Applicant's good practice and working control measures, as well as the identified site-specific mitigation measures outlined in each technical chapter of the EIA Report, the Proposed Development is not predicted to result in any permanent or operational significant environmental effects. Some temporary significant effects have been identified during the construction phase in relation to the following impacts: landscape and visual; forestry operations; transport (accidents and safety) and cumulative impacts, which will be limited as far as is practicable.

Scottish & Southern Electricity Networks

TRANSMISSION

APPENDIX A FIGURES