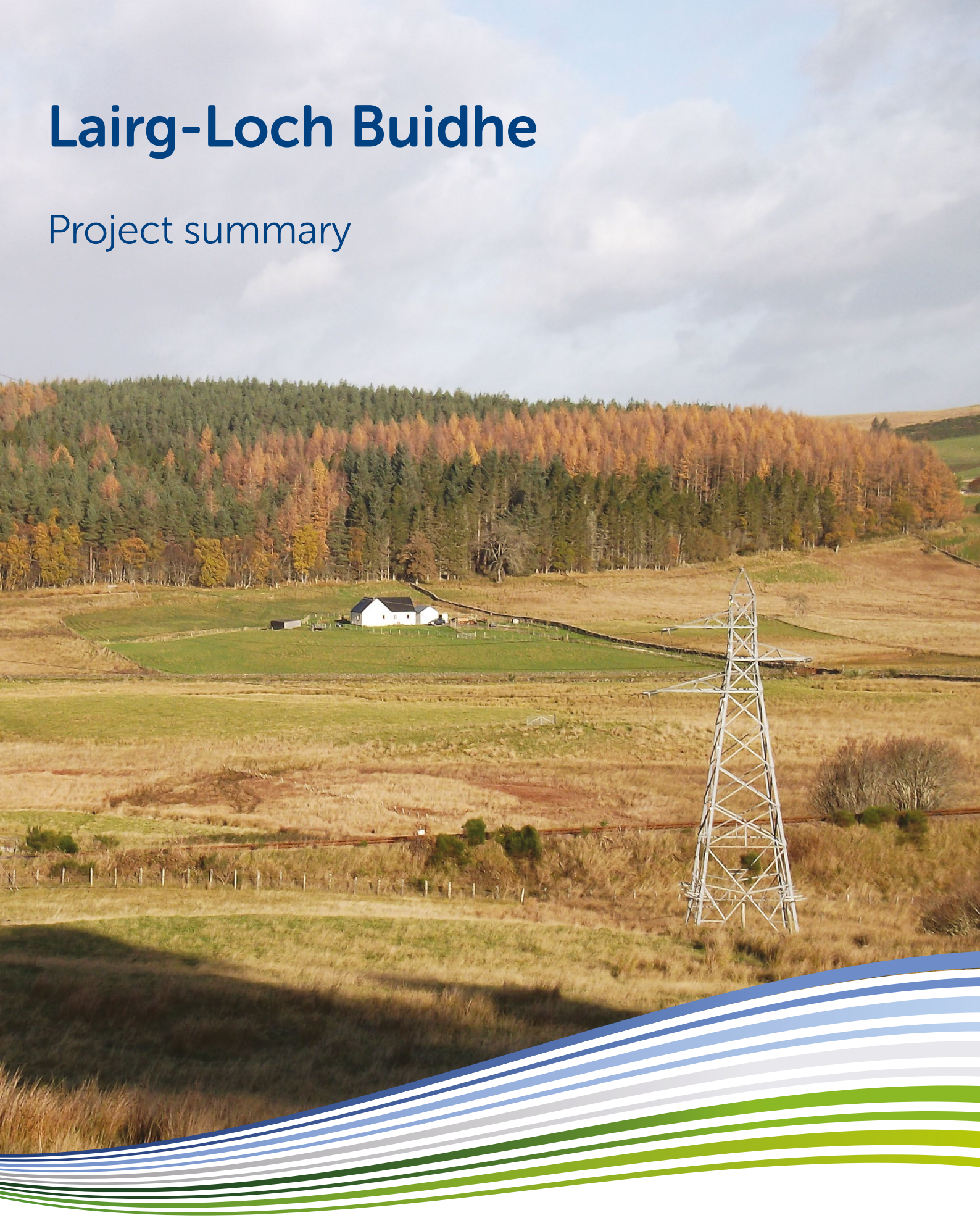
Lairg-Loch Buidhe

Project summary



Scottish & Southern
Electricity Networks

About the project

The Lairg-Loch Buidhe transmission reinforcement comprises of the following elements:

New Lairg Substation (Dalchork)
Construct a new outdoor 132kV Air Insulated Switchgear (AIS) substation north of Lairg, adjacent to the existing 132kV single circuit overhead line.

The works consist of widening of the A836 road from the junction of A838 up to the substation access point, upgrade of existing forestry track, construct a stone platform from site won material, construct a steel frame building and install equipment foundations and associated electrical equipment.

Lairg to Loch Buidhe Overhead Line
Construct approximately 17km of 132kV double circuit overhead line (61no towers) between the proposed new Lairg substation and the Loch Buidhe substation) on a new alignment.

This will include upgrading of existing tracks, constructing new tracks, constructing foundations, erecting steel lattice towers and final installation of conductors (wires).

Loch Buidhe Substation
The installation of an access track and small compound to the north of the existing main substation which allows of the overhead line to change to a cable and then routed into the existing main substation.

Within the existing substation, there will be several new foundations to be constructed along with associated electrical equipment to receive the cable and allow for the electricity to flow into the existing electrical network.

Lairg GSP
Minor works required to upgrade existing plant Cassley GSP (Overscraig).

Lairg to Shin Overhead Line
Dismantle approximately 12km of existing 132kV overhead line between the existing Lairg Grid Supply Point (GSP) and the Shin Substation (Inveran).

Why is the project required?

As the transmission licence holder in the north of Scotland, we have a duty under Section 9 of the Electricity Act 1989 to facilitate competition in the generation and supply of electricity. We have obligations to offer non-discriminatory terms for connection to the transmission system, both for new generation and for new sources of electricity demand.

The project aims to enable renewable energy to connect to our transmission network. Under our Network Operators Licence, this connection should be efficient, co-ordinated and economic, whilst having the least possible impact on the environment.

2019
- Town & Country Planning and Section 37 Consent Received (Q2).
- Award of the construction contract.

2020
- Start of construction.

2022
- Construction and commissioning completion.
- Dismantling of redundant OHL.

Planning application

ECU00001763: Lairg to Loch Buidhe Overhead Line

Scottish Ministers have granted Scottish Hydro Electric Transmission Plc (registered in Scotland under company registration number SC213461 at Inveralmond House 200 Dunkeld Road, Perth, PH1 3AQ) consent under Section 37 of the Electricity Act 1989 to construct and operate a 16km 132kV overhead line (OHL), supported by steel lattice towers, between Tower LL01 (Grid Ref: 264837 898098) at the proposed Dalchork substation located 3km north of Lairg, and Tower LL61 (Grid Ref: 258271 909420) at Loch Buidhe substation located approximately 8km north of Bonar Bridge.

Consent has also been granted to construct and operate a 1km 132kV OHL between Tower CS80R (Grid Ref: 257391 910053) and Tower CS80D (Grid Ref: 258169 909532) to connect the proposed Dalchork Substation with the Cassley to Shin 132kV OHL, and a temporary diversion of the Cassley to Shin 132kV OHL to allow construction of Tower CS80R.

Scottish Hydro Electric Transmission Plc has also been granted planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 for the development.

19/00374/FUL Dalchork Substation

Scottish Hydro Electric Transmission Plc has been granted planning permission by The Highland Council under the Town & Country Planning (Scotland) Act 1997, as amended, for full planning permission for the erection and operation of a 132kV substation comprising platform area, control building, associated plant and infrastructure, ancillary facilities, public road improvements to the A836 between the site entrance and the junction with the A838, upgrade of an existing forest track, site compound (half of which will remain permanent for operational purposes) and landscape works on land 1,000m to the SE of Dalchork House, Lairg.

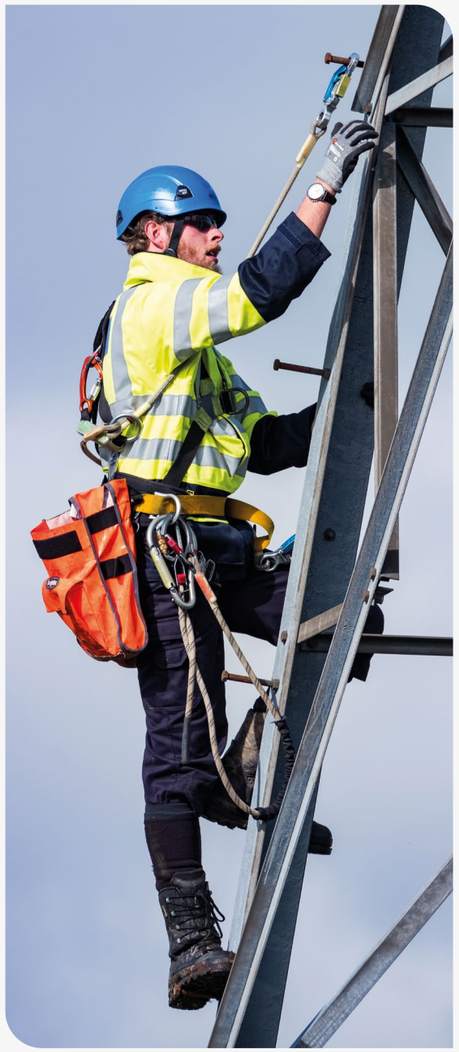
Project overview

The high-level overview of the works is noted below for each section of the work:

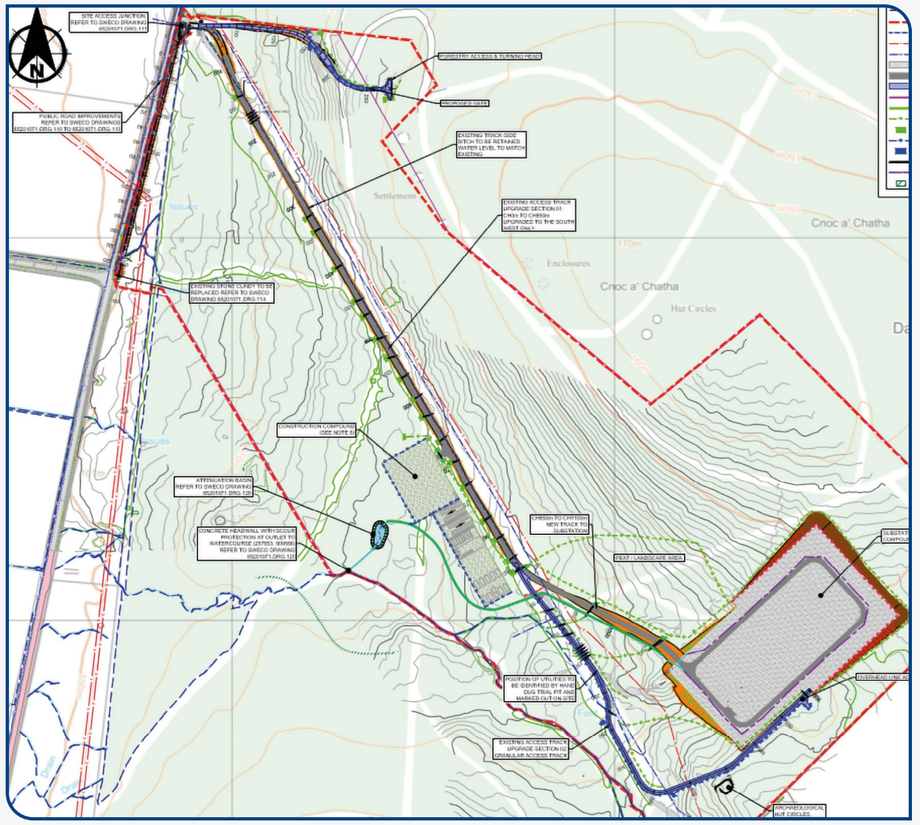
Dalchork Substation Construction

The substation package of works has been awarded to Balfour Beatty under a Design and Build contract.

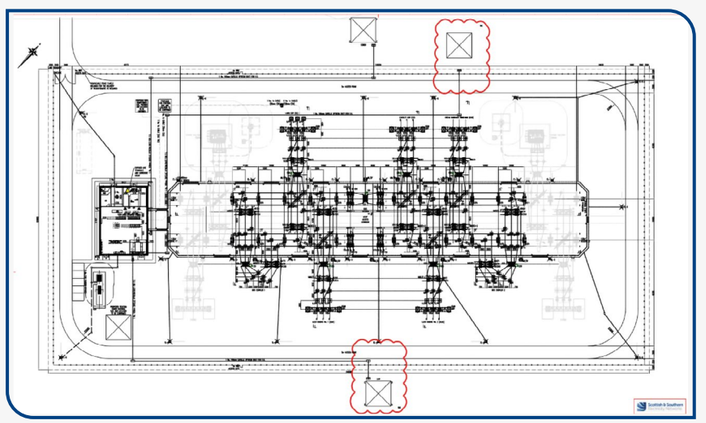
The works include:



- **Phase 1 - Main civil construction July 2020 – June 2021**
  - Underground of the existing 11kV wood pole along the access road
  - Perimeter stock fencing
  - Contractor Compound and laydown – 600m from the public road
  - 450m of public road widening A836 from the junction of A838
  - 1100m of access track 5.0m to the planned substation platform
    - 850m of an upgrade of existing track
    - 250m of new road
  - Construct a 270m by 160m wide platform
    - Technique cut fill – reduces import of aggregates
  - Construction of a single-story Control Building
  - Installation of site services
    - Drainage
    - Cable routes – power and control
    - Potable water (Scottish Water)
    - Mains Power Supply (SHEPD DNO)
    - Earthing grid
  - Installation of internal roads
  - Installation of site palisade fencing
  - Installation of reinforced concrete foundations.
- **Phase 2 - Main HV electrical equipment installation March 2021 – Dec 2021**
  - Installation of HV equipment structures
  - Installation of HV equipment
  - Installation of cabling
  - Installation of control systems in Control Building.
- **Phase 3 - Commissioning stage Nov 2021- May 2022**
  - Commissioning of installed equipment
  - Testing of installed equipment
  - Go live.



General Civil layout of Dalchork Substation Development



General Electrical layout of Dalchork Substation Development

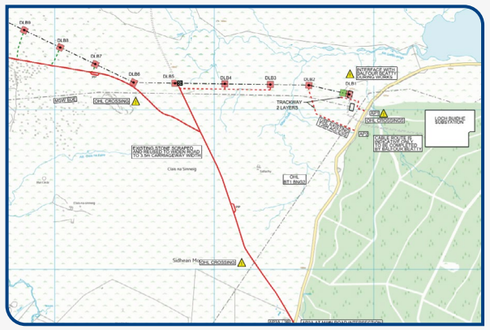
Overhead line works

A contract has been awarded to Wood Group for the overhead line works including a new double-circuit tower line to Loch Buidhe of 61 towers between Sept 2020 – May 2022.

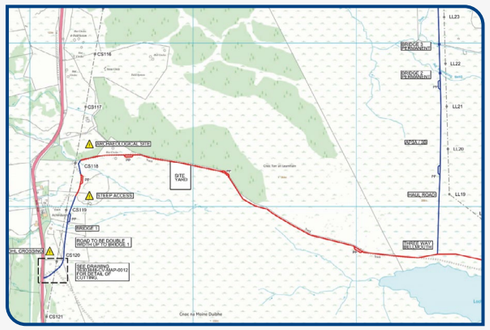
The works consist of the following elements:

- **Phase 1 constructing access tracks to Tower locations**
  - Access Point 3A – Upgrade existing track between Migdale road to Loch Laro with imported stone
  - Access Point 3B – Upgrade existing track between A836 at Achinduich to Loch Laro with imported stone
  - Form a contractor compound at Access Point 3B circa 1500m of A836
  - Construct a new access track from Loch Laro north towards A839 (Rogart Road) with imported stone
  - Access Point 4A – Rogart Road construct a new access track from A839 (Rogart Road) north towards Savalbeg with imported stone
  - Access Point 6 – Dalchork Wood construct a new access track from A836 Dalchork wood south towards Savalbeg.
- **Phase 2 – Tower foundations and Tower erecting**
  - Install reinforced concrete tower foundations
  - Erect steel lattice towers.
- **Phase 3 – Install conductors**
  - Install wires from Tower to Tower.

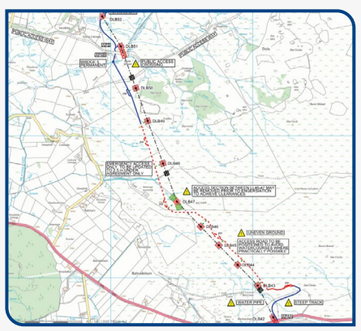
General access layouts



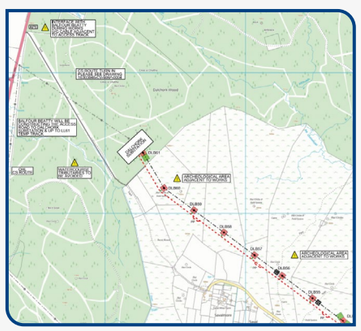
Access Point 3A – Migdale road towards Loch Laro



Access Point 3B – A836 Achinduich towards Loch Laro



Access Point 4A – A839 Rogart Road towards Savalbeg



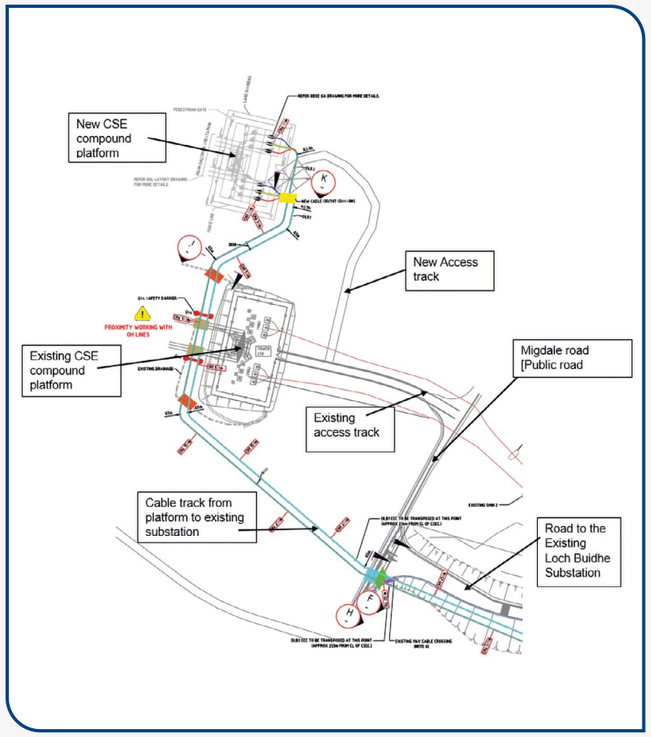
Access Point 6 – Dalchork Wood towards Savalbeg

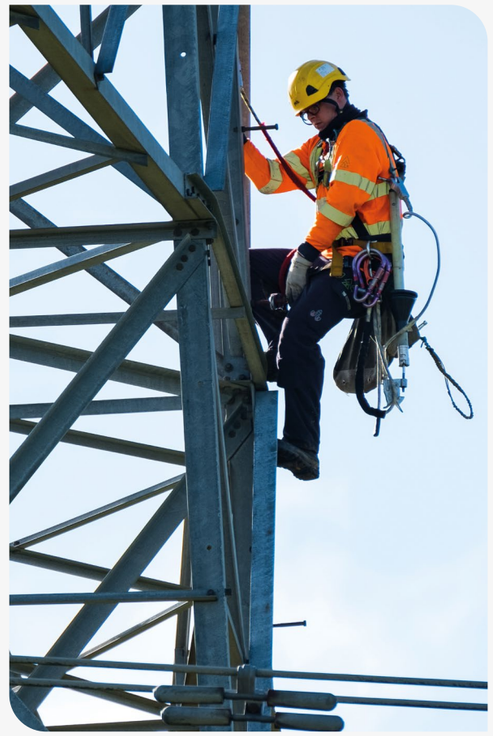
Loch Buidhe remote end works

The Loch Buidhe works have been awarded to Balfour Beatty under a Design and Build contract as part of the main Dalchork contract. Construction programme for this section is Jan 2021 – May 2022.

The works include:

- **Civil works**
  - Contractor compound establishment at the existing main substation
  - Access track off the existing track to a stone platform with imported stone
  - Construction a stone platform with imported stone
  - Install cable ducts from the stone platform to the existing substation
  - Install 40no+ small reinforced concrete foundations in the existing substation.
- **Electrical Works April 2021 – Dec 2021**
  - Install 2no cable circuits from CSE platform compound to the existing substation
  - Installation of HV equipment structures
  - Installation of HV equipment
  - Installation of cabling
  - Installation of control systems in Control Building.
- **Phase 3 Commissioning stage Nov 2021- May 2022**
  - Commissioning of installed equipment
  - Testing of installed equipment
  - Energise/into supply.





Scottish & Southern Electricity Networks

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