

# Lochay 132/11kV Transformer Replacement

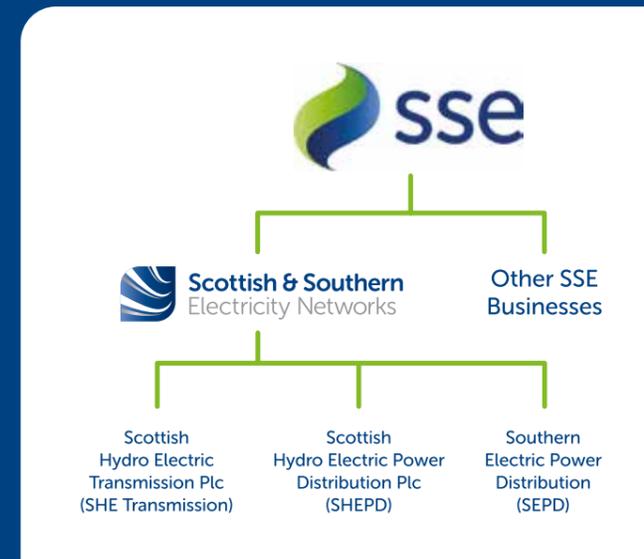
September 2020



**Scottish & Southern**  
Electricity Networks

# Who we are

We are Scottish and Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission Plc (SHE Transmission) for the transmission of electricity in the north of Scotland.



## What is the difference between Transmission and Distribution?

Electricity Transmission is the transportation of electricity from generating plants to where it is required at centres of demand. The Electricity Transmission network, or grid, transports electricity at very high voltages through overhead lines, underground cables and subsea cables. Our transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain. It also helps secure supply by providing reliable connection to the wider network of generation plants.

The Electricity Distribution network is connected into the Transmission network but the voltage is lowered by transformers at electricity substations, and the power is then distributed to homes and businesses through overhead lines or underground cables.

In total we maintain about 5,000km of overhead lines and underground cables – easily enough to stretch across the Atlantic from John O’Groats all the way to Boston in the USA.

Our network crosses some of the UK’s most challenging terrain – including circuits that are buried under the seabed, are located over 750m above sea level and up to 250km long.

The landscape and environment that contribute to the challenges we face also give the area a rich resource for renewable energy generation. There is a high demand to connect from new wind, hydro and marine generators which rely on Scottish and Southern Electricity Networks to provide a physical link between the new sources of power and electricity users. Scottish and Southern Electricity Networks is delivering a major programme of investment to ensure that the network is ready to meet the needs of our customers in the future.

## Our responsibilities

We have a licence for the transmission of electricity in the north of Scotland and we are closely regulated by the energy regulator Ofgem.

Our licence stipulates that we must develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

## Overview of Transmission Projects



# Project update

In 2019 SHE Transmission held 2 public consultation events and following the feedback we received from the local community and other interested parties from these events we subsequently continued to review the design options available.

On the 9 May 2019 we presented our preferred site for the new substation which was located north east from the existing substation location. The public were invited to provide feedback on this site location and the feedback we received was primarily focused on the visual impact of the layout we presented.

Following the detailed consultation event in May 2019 re-design took place on our proposals and further information was then presented at a public event held in McLaren Hall on 10th December 2019 based on the design information available at that time.

The event was attended by around 17 people and provided another opportunity for the public to ask questions and give feedback on this new proposed design.

The substation design has continued to progress following the feedback we received from the public event in December 2019, and the decision has been made to revert back to the original location with a revised layout.



Air Insulated Switchgear (AIS) design

## Temporary construction compound

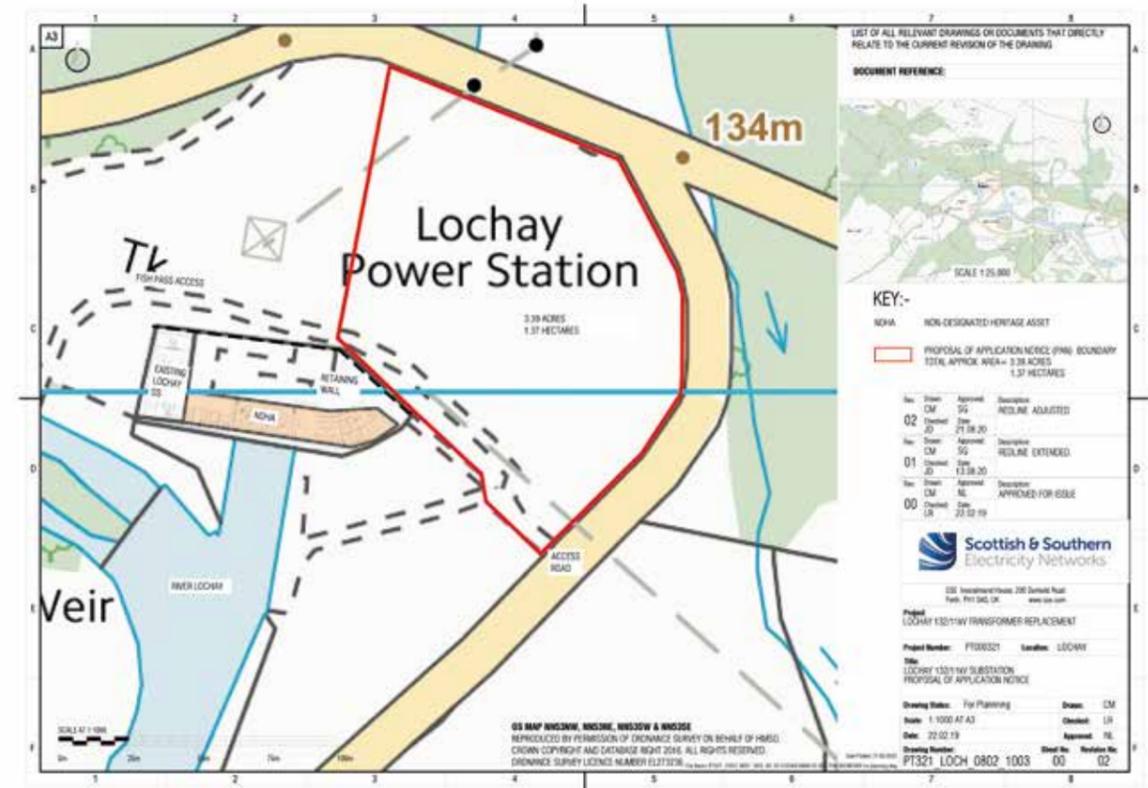
A planning application was submitted to Stirling Council for a temporary construction compound in March 2020 where temporary offices, welfare and storage facilities will be established during the planned construction period. The planning application was approved on 30 June 2020.

No improvements will be required to the local road network for general construction traffic.

# Our proposed solution

Our chosen site for the replacement of the two transformers has returned to the original location to the north east of Lochay power station which will mean the transformers will be relocated and no longer replaced in situ. Although we have returned to the original site that we consulted on in May 2019 the design has changed, and our new design proposal is to:

- Lower the level of the substation
- Change the orientation of the substation layout so the building reduces the visual impact from the south west
- Propose to use a gantry rather than a new tower within the substation compound
- Remove the existing terminal tower at the power station
- Reduce the amount of earthworks resulting in reduced traffic movement to and from site
- Create a new access junction off the public road.



Following discussions with affected stakeholders we have opted to return to the site north east to the power station because;

- Interference with the daily operations of the power station are sufficiently reduced
- Modern safety specification and standards can be achieved
- Shorter outage periods mean the water can be managed more effectively by Lochay Power Station

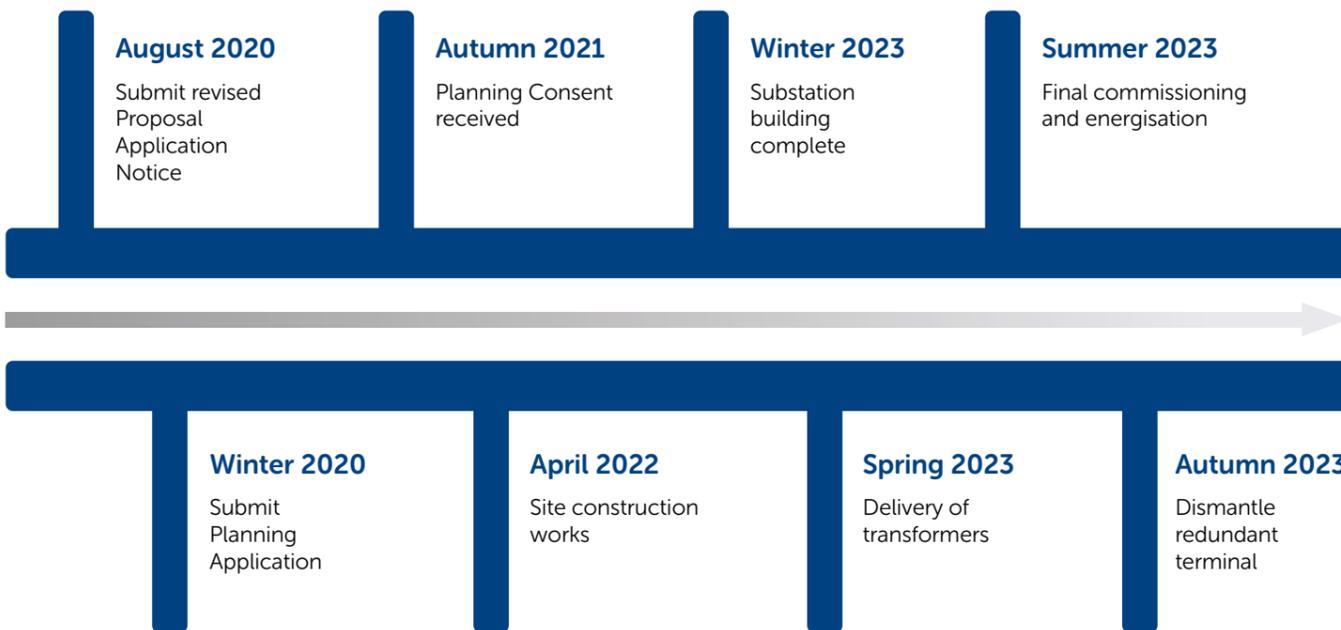
# Planning applications and overview

In May 2020 a site selection assessment was undertaken which identified four possible sites in close proximity to the existing Lochay Power Station.

This assessment identified the current proposed site as the preferred location based on a number of factors including technical, operational, environmental and safety parameters.



## Project timeline



### Planning application

SHET have submitted a new proposal of application notice for the revised design under the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 to Stirling Council.

At this time we consider the overhead line element of the proposal is likely to benefit from exemptions under the Overhead Line (Exemption) (Scotland) Regulations 2013.

Following the proposal of application notice we intend to submit a planning application for consent under the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 to Stirling Council in Winter of 2020/21.

This means a planning application through Section 37 of the Electricity Act 1989 may not require to be submitted to the Scottish Government's Energy Consents Unit. The overhead line works will comprise of replacement of one terminal tower with a gantry and tie ins to the electricity substation.

# Proposed design

## Substation

The substation reinforcement works would involve:

- Construction and installation of a substation compound and building.
- Installation of two 132/11kV, 36MVA grid transformers.
- Installation of 132kV switchgear to facilitate the connection to the overhead line.
- Associated electrical infrastructure.



## Overhead line

The overhead line works will comprise:

- Erection of one new steel lattice gantry at the new substation location.
- Diversion of the 132kV overhead line from the existing terminal tower at Lochay power station to the new gantry.
- Removal of the existing steel lattice terminal tower at Lochay power station.
- Undergrounding of the 33kV overhead line.



## Public road improvement works

- No significant road improvements have been identified as being required.
- Abnormal load deliveries for two grid transformers will be required.
- The abnormal load deliveries of the two grid transformers will be escorted through Killin village, this may be carried out by Police Scotland.
- Temporary restrictions to local parking will be required within the village of Killin along Main Street to allow the transformers through the village and to be delivered at Lochay power station.
- Formation of a site entrance off the public road.

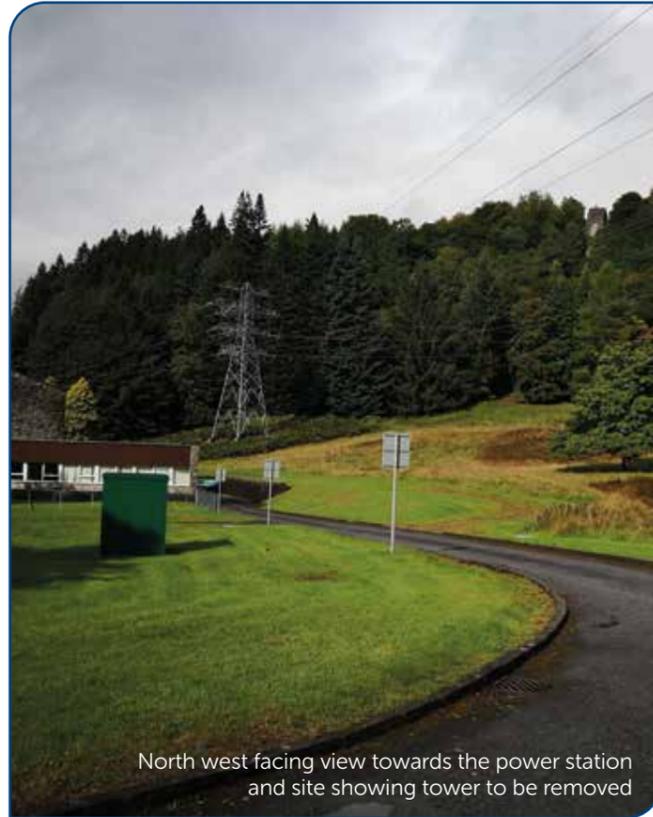


## Screening

Appropriate screening and bunding for this site to lessen the visual impact of our proposal will be agreed with Stirling Council. These would most likely involve planting a variety of trees around designated areas of the footprint of the site. At this early stage we do not have detailed designs of screening measures.

# Environmental Consideration

A number of environmental studies and surveys have been carried out by professionally qualified specialists. The approach to assessment and some of the current findings are outlined below.



North west facing view towards the power station and site showing tower to be removed

## Visual effects

Taking into account the visualisation concerns raised by the public during the previous consultations we have redesigned the project. This has reduced the required overall footprint and the height of infrastructure required.

The site proposed for the substation will be cut into the slope with a retaining wall to the north and earthworks to the south.

## Terrestrial ecology (habitats and species)

The habitats on the project site are predominantly improved, poor semi-improved and amenity grassland of low ecological value and scattered deciduous trees and the works will not result in the loss of any notable habitats.

No signs of protected species were originally recorded within the project site boundary and no effects are predicted because of the proposed works. Some trees will be removed on the substation site. New planting will be undertaken to enhance the habitats on and around the new project site.

## Water environment and soils

The site lies within the Tay local flood management plan catchment area. The management plan does not identify the project site as being within a 'potentially vulnerable area' for flooding.

The Scottish Environment Protection Agency (SEPA) national flood risk assessment flood map, does not identify the project site as being within an area likely to experience river or surface water flooding. The site is not within a drinking water protected area.

A construction environmental management plan (CEMP) will be developed and implemented to ensure private water supplies are not contaminated as a result of the proposed development.

Following consultation with NatureScot they have concluded that the construction of the substation is unlikely to have a significant effect on the River Tay Special Area of Conservation (SAC) if standard pollution prevention measures are adhered to. The CEMP will set out mitigation to be implemented to ensure this.



View of improved marshy grassland across the site

# Environmental Consideration cont...

## Traffic and transport

The construction works will require plant and machinery, along with vehicles to transport materials and workers to the site. A new access track will be required which will take access directly off the existing public road.

## Noise

The nearest noise sensitive receptors are Murlaganmore steading and a farm steading on the south banks of the river Lochay, approximately 350m southwest and 850m southeast of the hydro station respectively. Given the distance between the project and nearest noise sensitive receptors, the nature of the construction works and operational characteristics and the presence of the existing hydro station and substation, any change in noise level is considered likely to be negligible.

## Cultural heritage

There are no designated heritage assets on the site, although Lochay hydro power station is recorded on the national record of the historic environment (NRHE) and is considered to be a non-designated heritage asset.

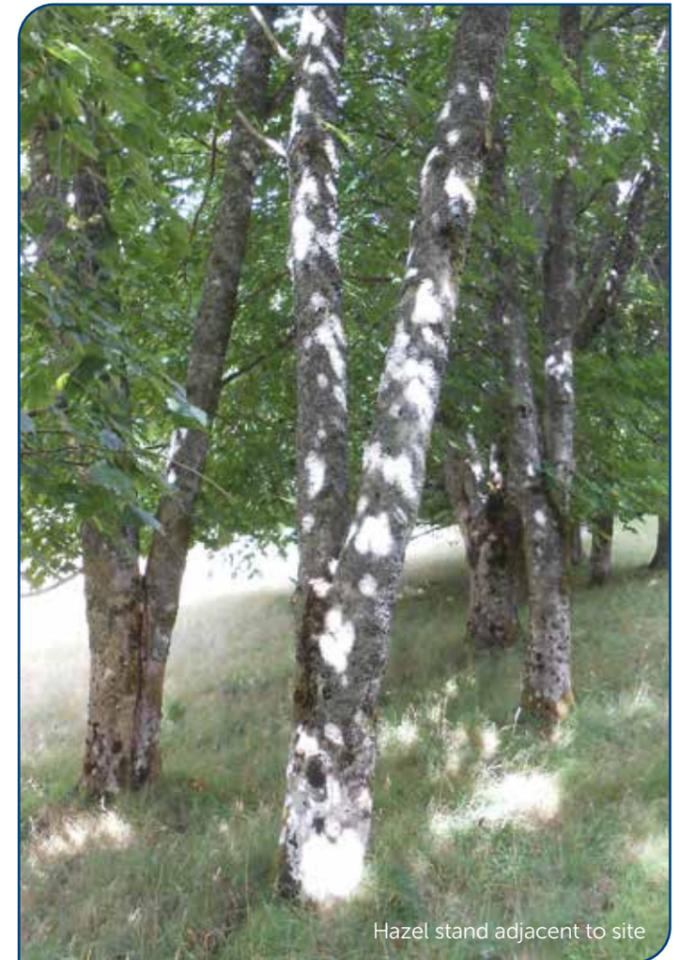
An archaeological watching brief will be maintained on all ground breaking works. The purpose of the watching brief would be to identify any archaeological remains that would be affected by the project, to assess their significance and to mitigate any effect upon them either through avoidance or, if preservation in situ is not warranted, through preservation by record.



Example of amenity grassland adjacent to site



Example of tree species in vicinity of site. Dominant species include downy birch and sessile oak



Hazel stand adjacent to site

# What happens now and how do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements and consultations. Without this valuable feedback, the project development team would be unable to progress projects and reach a balanced proposal.

We are keen to receive your views and comments in regards to the following questions:

- Has the project information provided explained the need for returning to the original site location?
- Do you agree with the location for the new grid transformers?
- Do you have any comments on our decision to return to the original location for the new grid transformers?
- Do you feel SSEN have given enough consideration to potential impacts on the environment that this project may have?
- Are there any additional factors, issues or concerns which you wish to bring to the attention of the project team regarding our proposal?
- Following your review of the information displayed today, how would you rate your knowledge of the Lochay 132/11kV transformer replacement?

## Comments

Your views and comments can be provided to the project team by completing a feedback form or by writing to Louise Anderson, Community Liaison Manager. We will be seeking feedback from the members of the public and Statutory Bodies until **9 October 2020**.

All received feedback will be assessed and the proposed options adapted where necessary.

## Community Liaison Manager, Louise Anderson

 louise.anderson@sse.com

 07384 454 233

 **Louise Anderson**  
Scottish and Southern  
Electricity Networks,  
200 Dunkeld Road,  
Perth, PH1 3AQ



## Additional information

Information will also be made available via the project webpage and social media channels:

**Project Website:** [www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement](http://www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement)

**Follow us on Twitter:**  
@ssencommunity

**Follow us on Facebook:**  
@ssencommunity



# Your feedback

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in **BLOCK CAPITALS**. (Please tick one box per question only)

**Q1 Has the project information provided explained the need for returning to the original site location?**

Yes  No  Unsure

**Q2 Do you agree with the location for the new grid transformers?**

Yes  No  Unsure

**Q3 Do you have any comments on our decision to return to the original site location?**

**Q4 Do you feel SSEN have given enough consideration to potential impacts on the environment that this project may have?**

Yes  No  Unsure

**Q5 Are there any additional factors, issues or concerns which you wish to bring to the attention of the project team regarding our proposal?**

**Q6 Following your review of the information displayed today, how would you rate your knowledge of the Lochay 132/11kV transformer replacement?**

Very well informed  Know a lot  Know a little   
Know very little  Know nothing at all



Please use space below to provide further comments:

Full name

Address

Telephone

Email

If you would like to be kept informed of progress on the project please tick this box.

If you would like your comments to remain anonymous please tick this box.

Thank you for taking the time to complete this feedback form.

Please submit your completed form by one of the methods below:

**Post:** Scottish and Southern Electricity Networks, 200 Dunkeld Road, Perth, PH1 3AQ

**Email:** [louise.anderson@sse.com](mailto:louise.anderson@sse.com)

**Online:** [www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement](http://www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement)

**Download:** Comments forms and all the information from today's event will also be available to download from the project website.

The feedback form and all information provided in this booklet can also be downloaded from the dedicated website:

**[www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement](http://www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement)**

Any information given on the feedback form can be used and published anonymously as part of Scottish and Southern Electricity Networks consultation report. By completing this feedback form you consent to Scottish and Southern Electricity Networks using feedback for this purpose.

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