

North East 400kV Upgrade Overhead line Project

Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating as Scottish Hydro Electric Transmission plc under licence, is responsible for maintaining and investing in the electricity transmission network in the north of Scotland

The overhead steel tower line which runs between Blackhillock substation and Peterhead substation constructed in 1963 and 1973 is operated at 275,000 volts currently. The line passes through Keith, Rothienorman, and New Deer.

We are now investing in the network to refurbish the towers and replace the existing wires (conductors) between June 2021 and December 2022. In 2023 the voltage will increase to 400,000 volts.

The new wires and increased voltage will enable increased amounts of electricity to be transferred on the network whilst ensuring the security of demand.

Programme of Activity

Site compound location – Old Meldrum

Satellite compound location – New Deer



Access Works

May 2021 –
December 2022



**Install temporary
scaffolding**

June 2021 – Dec 2022



Tower Refurbishment

June 2021 –
December 2022

**Stringing (New Deer –
Peterhead)**

June 2021 – November 2021

Foundation upgrades

June 2021 – June 22

**Stringing (New Deer –
Rothienorman)**

February 2022 – June 22

Foundation upgrades

August 2021 – June 22

**Stringing (Rothienorman –
Blackhillock)**

May 2022 – December 2022

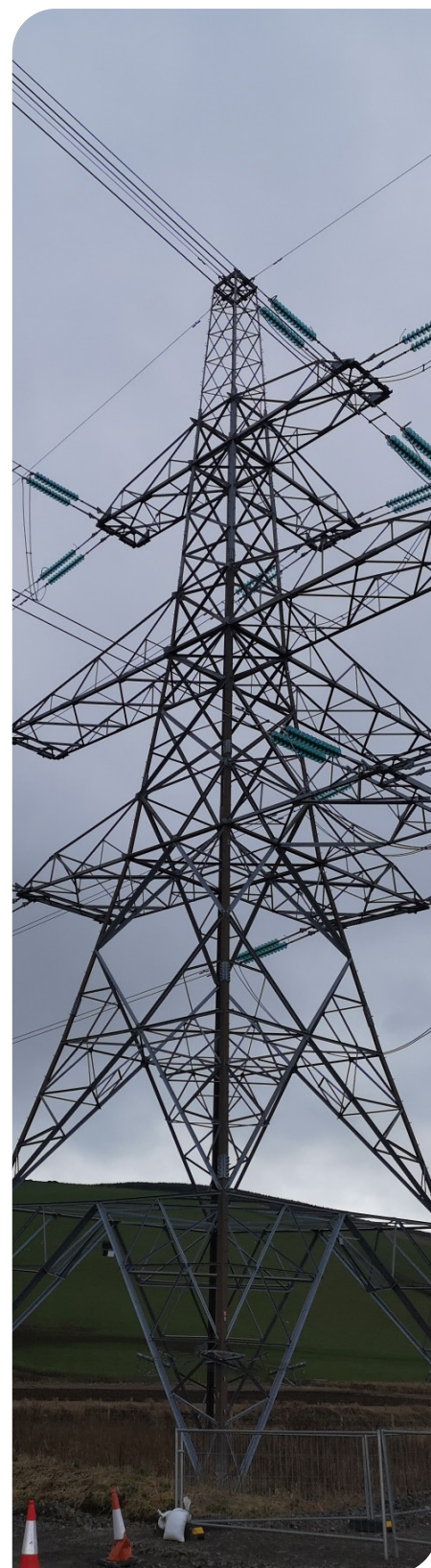
Foundation upgrades

September 2021 -July 2022



**Reinstatement &
Restoration**

July 2021 – December 2022





Project details – overhead lines

Conductor Replacement

The existing conductor is Twin Zebra Aluminium Conductor Steel Reinforced (ACSR) Conductor.

This conductor has been in place since the overhead line was constructed in 1963 and 1973 and is due for replacement.

The replacement conductor we will use is an All Aluminium Alloy Conductor (AAAC) of stranded construction.

Foundation Works

The new conductor has a different sag and tension characteristics to the existing conductor. Due to these different characteristics, studies have identified that a number of towers will require their foundations to be reinforced. Foundation works will be carried out at various points along the line between Peterhead, New Deer, Rothienorman, Kintore and Blackhillock.

Insulator Replacement

The existing 275kV insulators will be replaced for 400kV insulators. These are slightly longer than the existing insulators as they have more discs.

The insulator and conductor replacement will allow the overhead line to transfer a higher capacity of power.

Tower Refurbishment

The existing overhead line is being diverted past the Keith substation as this does not form part of the 400kV network, allowing the existing connection to the substation to be removed and a bypass created. This will result in four new towers being installed and seven towers removed which will improve the visual impact of towers and overhead lines in the area. A temporary construction compound will be established near to the Keith substation site to facilitate these works.

Access to the new tower locations would be established via temporary access tracks.

The new towers will require excavations to allow the construction of reinforced concrete foundations to support the towers, as well as the creation of temporary laydown areas to allow the erection of the towers.

Equipment including telehandlers, cranes, tractors, tracked excavators and all-terrain vehicles will be required to facilitate these works.

The lines will then be fitted with insulators and conductors strung between them and connected into the existing network.



North East 400kV OHL route

Access

To enable the works to be undertaken, temporary access tracks and site compounds with welfare facilities will be required, however these will be removed once construction is complete.

These works have been completed between Kintore and Rothienorman under a separate project, although 400kV operation will not occur until 2023.

If you would like further information about the project, please contact our Community Liaison Manager:

Dav Lynch

Email: dav.s.lynch@sse.com

Mob: 07918 404443

Website: <https://www.ssen-transmission.co.uk/projects/north-east-400k>

Follow us on social media: [@ssencommunity](#) [f](#) [t](#)