

Introduction

Scottish & Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission Plc (SHE Transmission) are currently consulting on options to construct a new 400kV Substation at Leylodge, Kintore.

Switchgear Technology Options

As part of our commitments and responsibilities to the decarbonisation of the GB electricity network, options that support decarbonised development at Kintore have been reviewed. Following an options review, it was determined that an Air Insulated Switchgear (AIS) substation was the preferred solution to meet this goal that we have committed to in our RIIO-T2 business plan: (<https://www.ssen-transmission.co.uk/media/3761/a-network-for-net-zero-final-business-plan.pdf>).

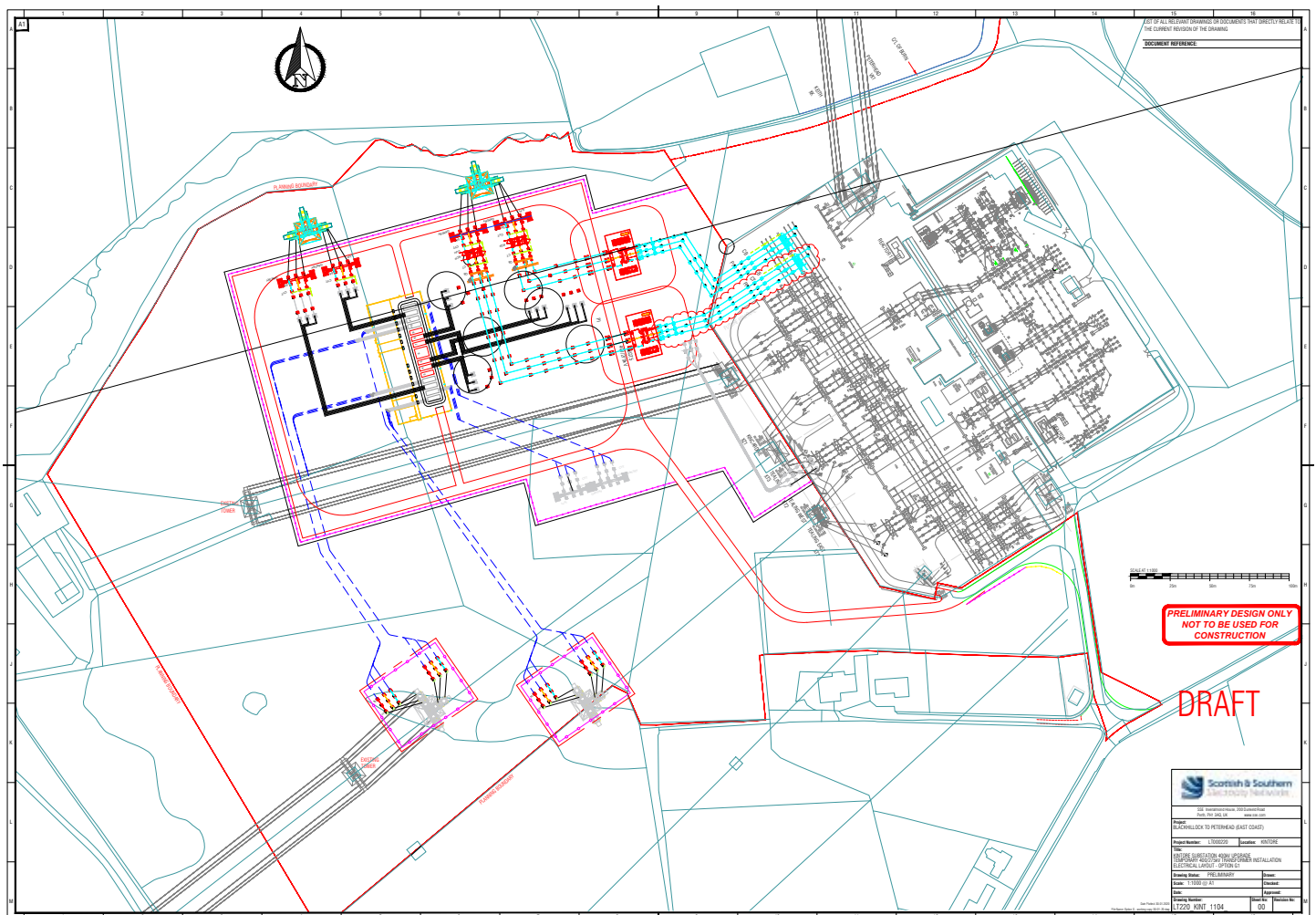
The alternative options available utilise technology known as Gas Insulated Switchgear (GIS). GIS substations have the considerable advantage of a much-reduced footprint compared to an AIS substation. However, traditional GIS installations utilise Sulfur Hexafluoride (SF₆) as an insulator in both the switchgear bay and the circuit breaker. This results in higher volumes of SF₆ than an AIS solution. In this respect a solution fully utilising SF₆ would not fully support the decarbonisation goals.

SF6 Free Solution

Recent advancements and innovation of switchgear technology has provided SHE-Transmission with an opportunity to consider a lower carbon potential GIS substation. This would allow SHE-Transmission to not only deliver a core part of infrastructure in a responsible, environmentally conscious manner, but also to reduce the size of our substation footprint and extent of the associated works, which are currently proposed under an AIS solution.

Conclusion

As a responsible developer, SHE-Transmission is committed to fully investigating the opportunity of a lower carbon, GIS substation design; before submitting any planning applications to Aberdeenshire Council. At present, we do not have detailed design information to provide further information – however we will return to consult with members of the Leylodge and Kintore communities with detailed information on a GIS solution and a final decision as to whether we intend to submit planning to construct an AIS or GIS substation.



This design is an example of the scale of footprint and equipment used within a potential GIS substation design at Kintore, this is not a final design solution.