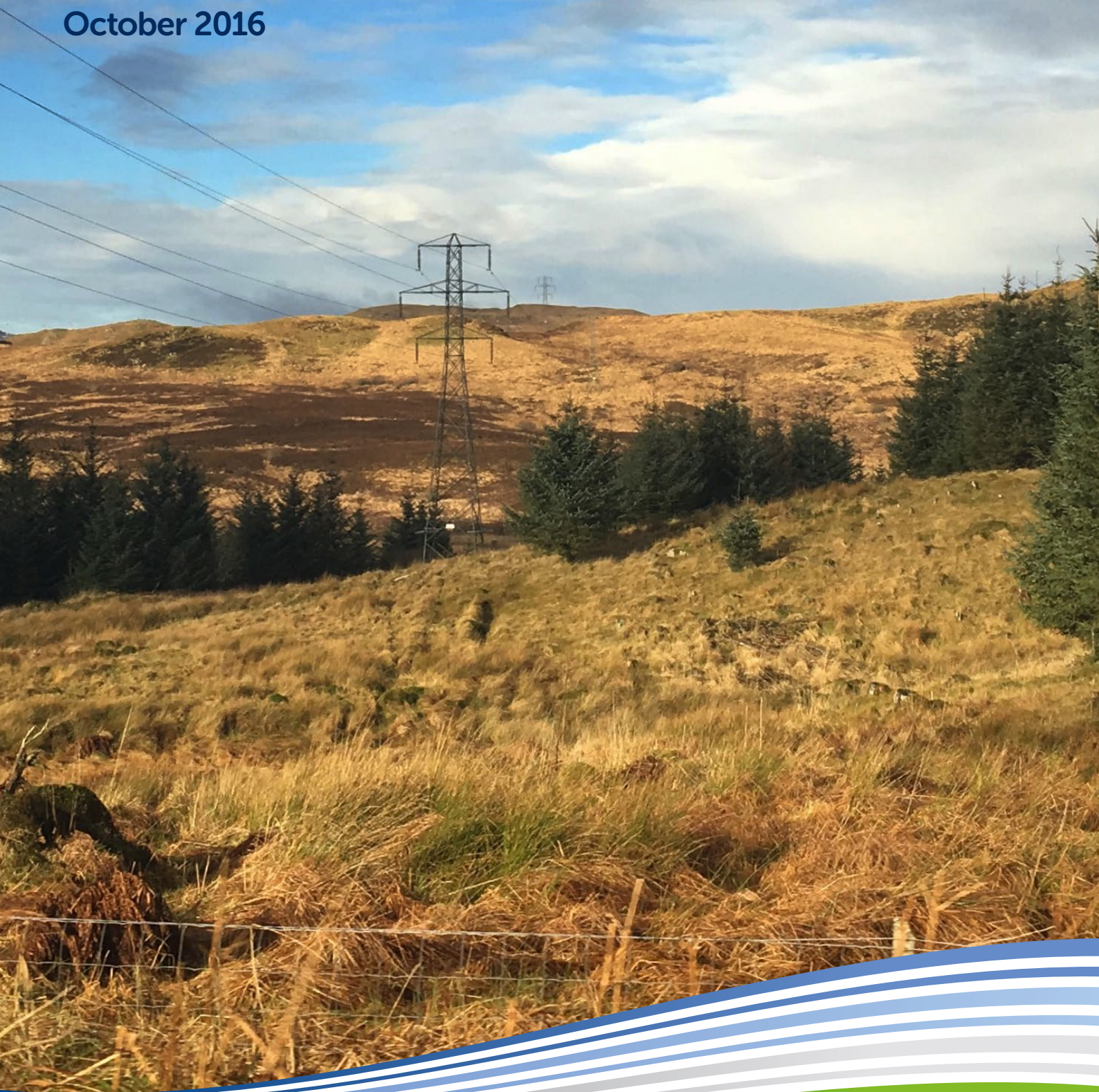


North Argyll Reinforcements

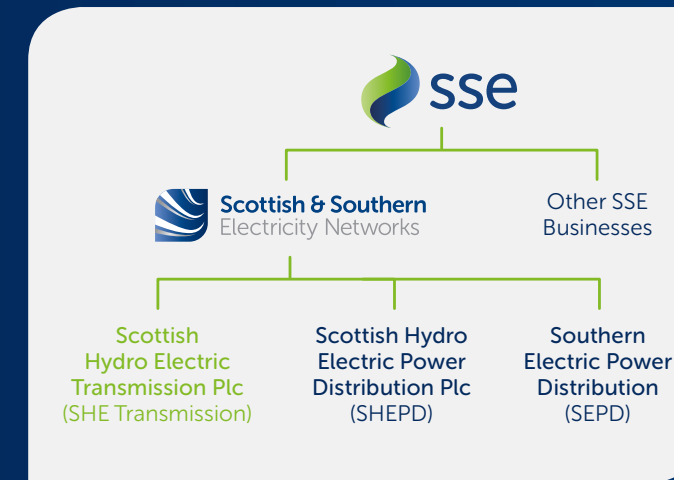
Consultation
October 2016



Scottish & Southern
Electricity Networks

Scottish and Southern Electricity Networks

Who we are



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

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

As we are the only company that owns an electricity transmission network in the north of Scotland we are closely regulated by the energy regulator Ofgem. We are issued with a licence to operate and we must adhere to the terms of the licence. For this reason we operate on a very separate basis to other SSE businesses.

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

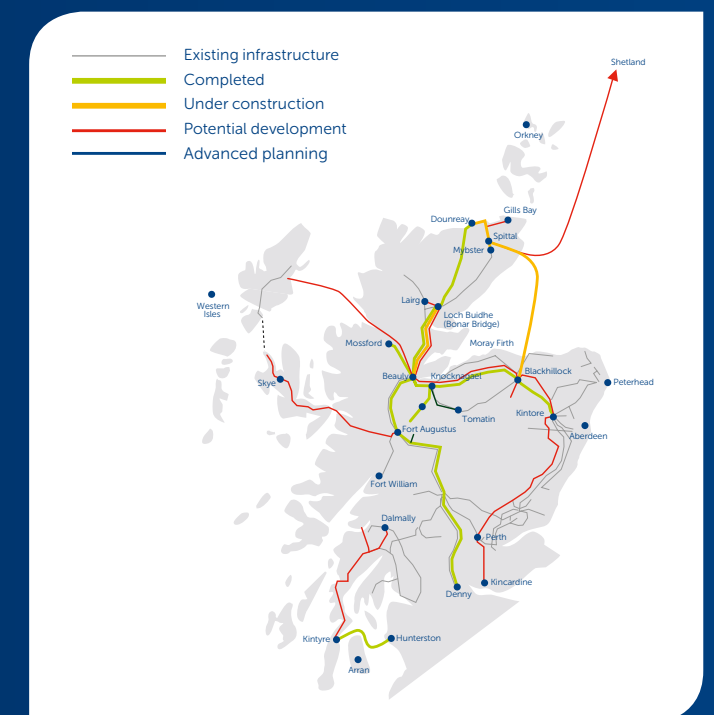
What is the difference between Transmission and Distribution?

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 wires, underground cables and subsea cables. The transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain.

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.

Overview of Transmission projects



North Argyll Reinforcements

Project Overview

The transmission overhead lines in North Argyll and Kintyre were constructed in the late 50's and early 60's. The transmission construction was to support the increase in hydro power stations being constructed within the area and to serve increasing local demand. In North Argyll the reinforcement to the network is driven by two large renewable projects Upper Sonachan Wind Farm and Glenshira Wind and a number of smaller (<10 MW) generation projects.

The aim of the project is to reinforce the existing transmission network in the region to enable generation projects to connect to the electricity network and to ensure security of supply. The main elements of the project are as follows:

- Construction of a new 275/132kV substation (North Argyll) in close proximity to the existing Inveraray to Taynuilt 132kV overhead line;
- Upgrade of the existing 132kV overhead line between Taynuilt and the proposed North Argyll substation. This upgrade will be achieved by either replacement conductor or a new overhead line;
- If a new overhead line is constructed between North Argyll and Taynuilt, the existing overhead line will be decommissioned and removed;
- The existing 132kV overhead line from Inveraray will connect to the proposed North Argyll substation; and
- Construction of a new 275kV overhead line between the proposed North Argyll substation and the existing Dalmailly substation.

Project Timeline

This project is currently at a very early stage in the development process and timescales are indicative at this stage.

- **2015:** Constraints, substation and OHL area chosen
- **March 2016:** Initial consultation events
- **2016:** Complete feasibility design
- **October 2016:** Second consultation events
- **January 2017:** Environmental Impact Assessment (EIA) for new OHL begins with publication of EIA scoping report
- **May 2017:** Pre application consultation
- **August to November 2017:** Submit planning and section 37 consent application
- **2017:** Contract tendering and procurement
- **2017/2018:** Land wayleaves agreements progressed
- **2019:** Construction Start
- **2020/2021:** Phased completion and commissioning

Consultation on the Preferred Route

Scottish Hydro Electric (SHE) Transmission is presenting proposals for reinforcement of the transmission network in Argyll. Initial proposals were consulted upon with the public in March 2016 and a search area for each element was illustrated. We are currently carrying out environmental studies of the route corridor options to ensure that the final route alignment takes into account environmental factors whilst also being technically and economically efficient. We are consulting with Argyll and Bute Council and other statutory bodies on our proposals.

Consultation on the Preferred Substation Site

The 132kV and 275kV lines will require to connect to the existing network and that will necessitate the construction of a new substation. We are seeking feedback in relation to identified substation location options. The project team are developing both projects together to achieve an efficient and economic proposal. We are consulting with Argyll and Bute Council and other statutory bodies on our proposals. The closing date for comments on information presented at this consultation is **9th December 2016**.

Consent Requirements

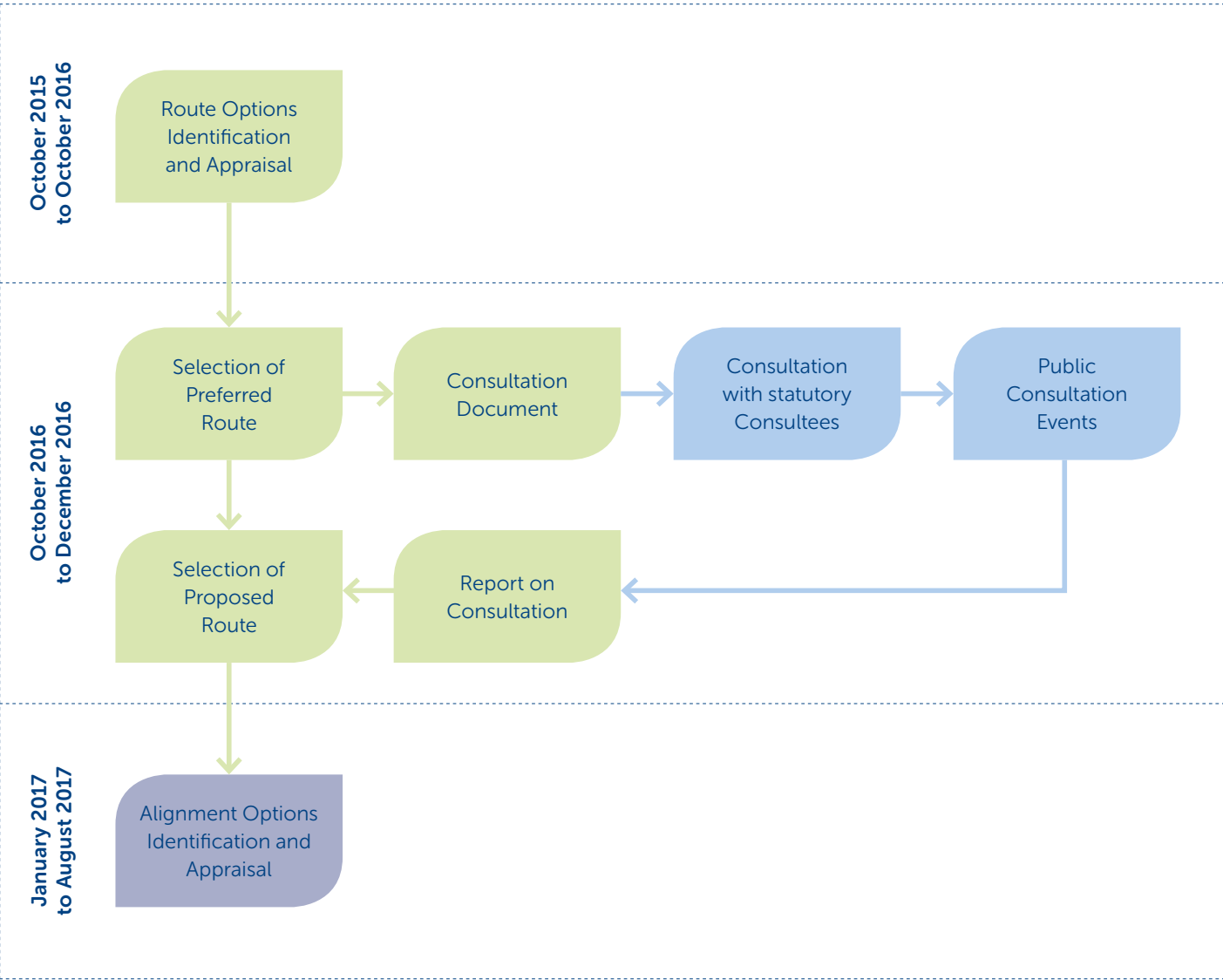
SHE Transmission will submit an application for planning consent to Argyll and Bute Council for the substation. Application consent under Section 37 of the Electricity Act will be submitted to the Scottish Government.

Development Routeing Process

Our overhead line projects are subject to a detailed routeing process. This ensures the final design meets network requirements, is cost effective, causes the least impact on important resources or features of the environment and least disturbance to those living, working, visiting or using the area for recreational purposes.

In March 2016 we held a series of consultation events as part of Stage 1 of the development routeing process, presenting search areas for the overhead lines. Following the feedback received from the events the development routeing process progressed to Stage 2, where the purpose is to identify a Preferred Route which is considered the optimal opportunity to provide an economically, technically and environmentally sound alignment within it.

The project is at the route selection stage and during this process we have defined specific Route Options and selected a Preferred Route.

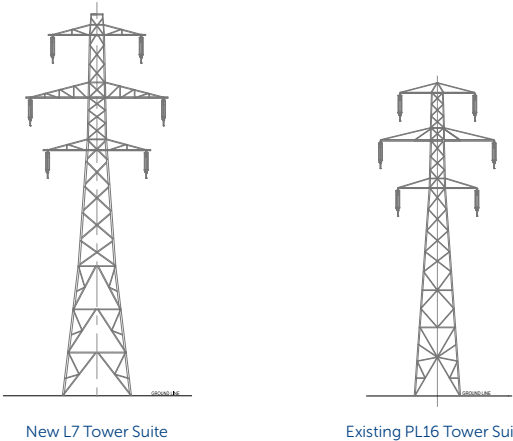


Project Considerations

Overhead Line Tower Design: Taynuilt to North Argyll

The new overhead line towers will be of a similar size and span to the existing towers.

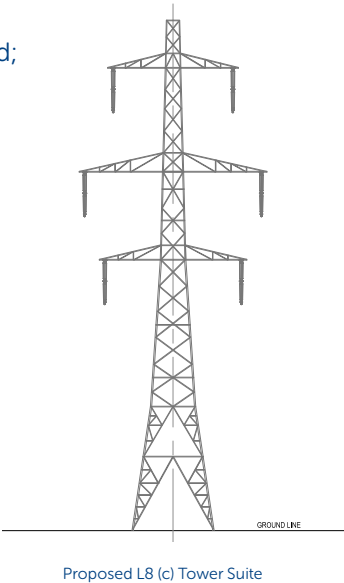
New towers are required so they can carry stronger conductors which the existing towers are not capable of doing. This in turn will allow greater current capacity to be transferred along the conductors.



Overhead Line Tower Design: North Argyll to Dalmally

The new Overhead Line towers will be required to operate at 275kV voltage which means that the tower heights may vary between 40m and 55m depending on the angle of the line and extensions required. The spans will be approximately 300m to 350m.

The drawing adjacent provides an indication of the tower types which will be utilised;



Potential Underground Cable Sections

In response to the feedback from the consultations in March 2016, we are investigating the use of underground cable at appropriate points on the route.

To allow the connection from overhead line to underground cable, the installation of a sealing end platform would be required. The picture adjacent shows a sealing end platform in comparison to the proposed towers and existing towers.



Aberdeen WPR bypass project (PTDYE451)

The cable would be required to operate at 275kV. To accommodate the capacity we would require two cables in each phase, (6 power cables and 1 fibre), 14 cables in total.



Bhlaraidh (LT000109 - 110)

The cable constraints identified in the area have shown that the cable would have to go under the A85, a railway line and the River Orchy. Therefore it is expected that the horizontal direction drilling (HDD) would be required for this installation.

North Argyll Substation Site Options

Consultation on Proposed Substation Locations

Landscape and Visual

In August 2015, an independent environmental consultancy undertook an Options Appraisal exercise for the proposed new North Argyll substation. The preferred substation search area was provided during the Consultation Events held in March 2016.

SHE Transmission has identified potential sites for a substation within this area. Two potential sites were identified, Site 1 and Site 2. An independent landscape and visual appraisal of these two sites was completed which included effects on the North Argyll Area of Panoramic Quality. North Argyll Area of Panoramic Quality is a regional level designation applied through the Local Development Plan by Argyll and Bute Council.

The independent landscape and visual appraisal of two of these sites concluded there were no locations or areas where it is considered that significant landscape or visual effects would be likely for either of the proposed substation sites. No significant effects were identified on either the Ben Lui Wild Land Area or Ardanaiseig Garden and Designed Landscape.

Ecology

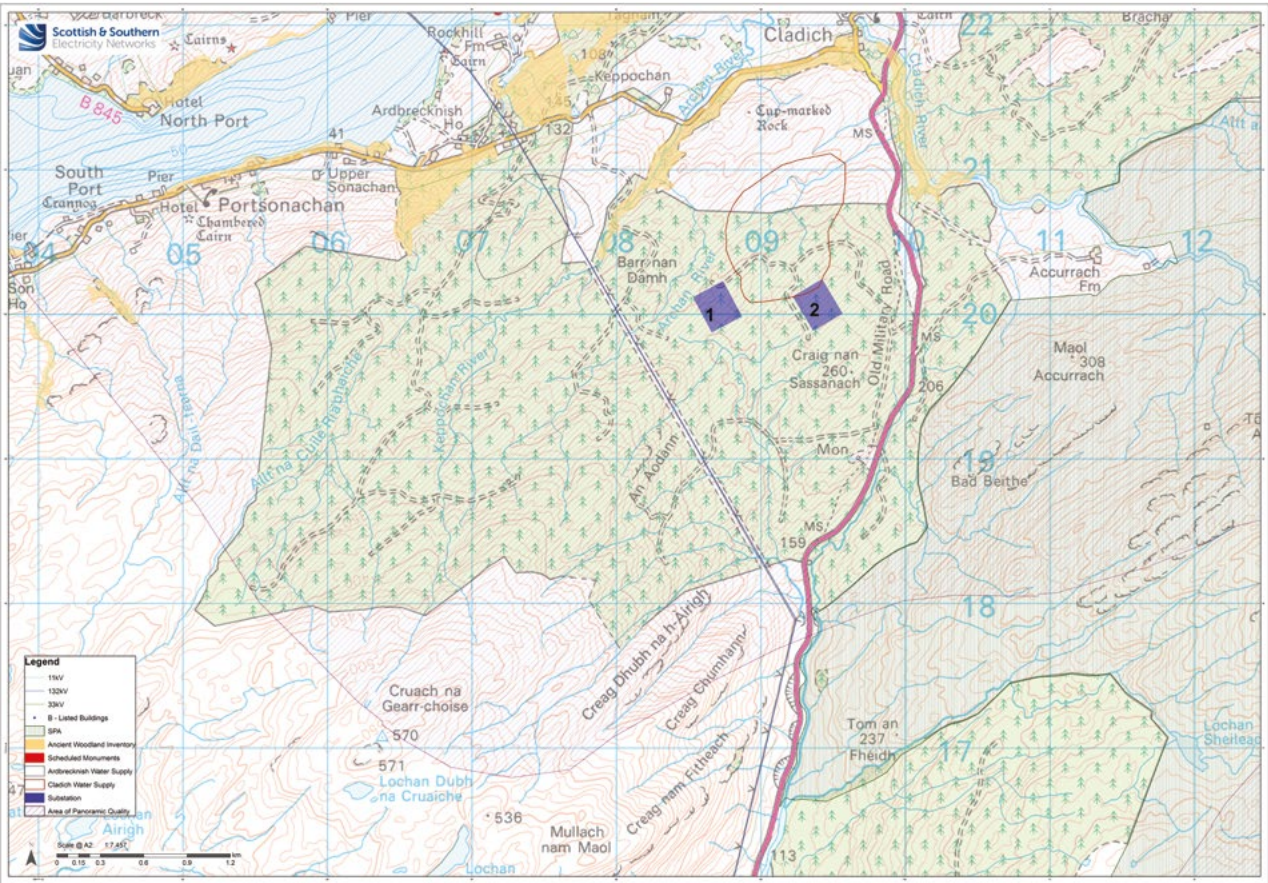
There are no ecological designations within the proposed substation sites and no other notable constraints identified. The Glen Etive and Glen Fyne SPA lies to the south-east of the proposed sites, but is separated by the ridge of Craig an Sassanach.

Cultural Heritage

The substation sites do not contain any designated cultural heritage sites, with the closest being a scheduled monument, Keppochan Cup-Marked Stone around 800 m to the north.

Hydrology

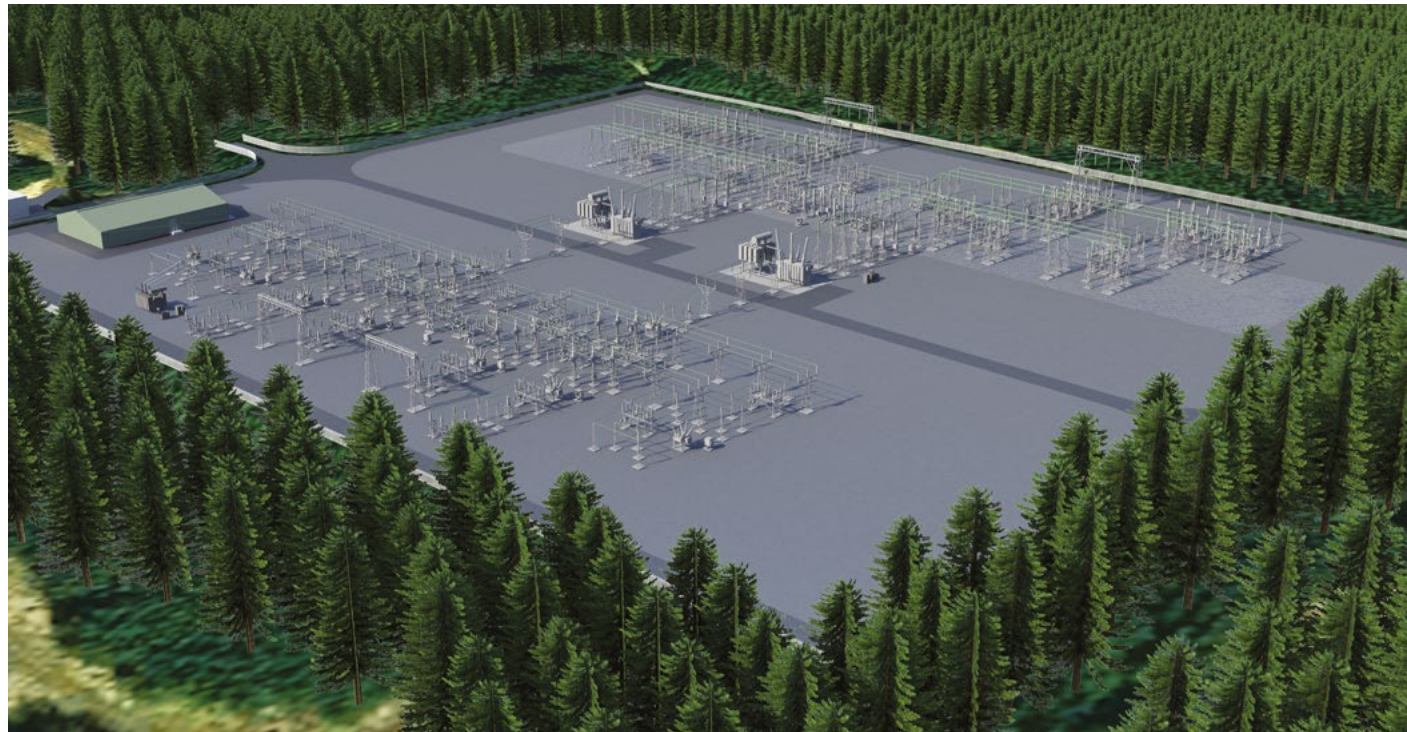
There is a network of watercourses mainly draining into the small valley which drains to the south-west towards Glen Aray. There is also a network of watercourses draining northwards towards Loch Awe (Archan River). Following the March 2016 public consultation events an area has been identified which provides the water supply for residences in the Ardbrecknish area, shown on the Figure below. The area of contribution for the Scottish Water managed water supply for Cladich has also been identified on the map below. Development of a substation at Site 2 could potentially affect the water supply serving Cladich (during the construction phase). The detailed effects on the water supply will be assessed during the Environmental Assessment of the substation (and any effects will be mitigated).



North Argyll Substation

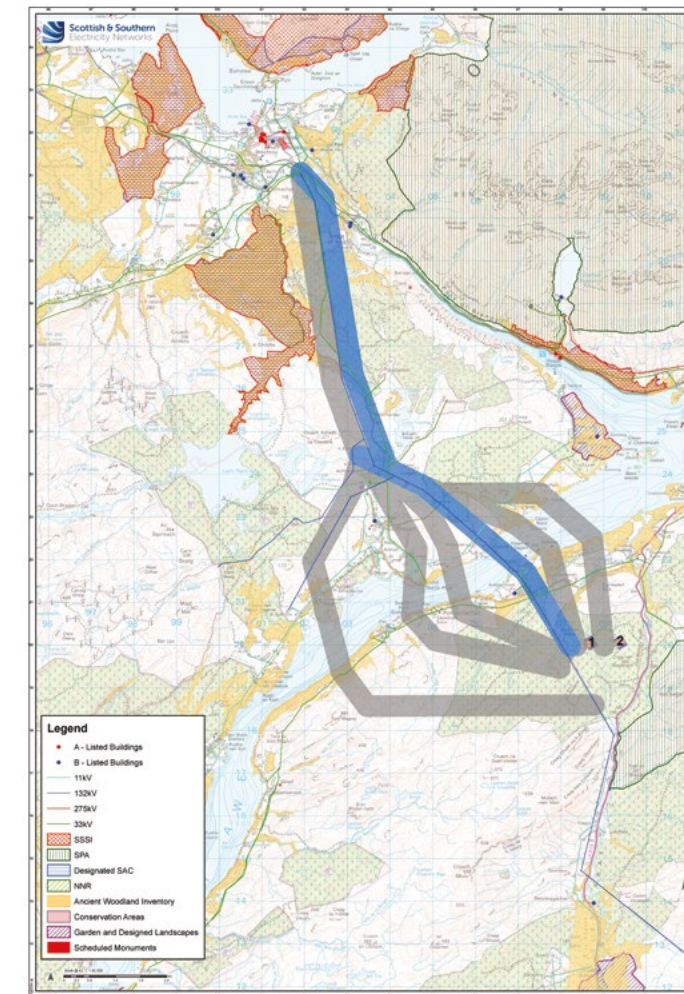
A 275/132/33kV substation is required to connect generation to the SHE Transmission Network. The substation will connect onto the existing 132kV network between Inveraray and Taynuilt and will also connect in to Dalmally 275kV substation to allow export of electricity to the National Grid.

The substation will consist of a double 275kV busbar with two overhead line bays and two supergrid transformer bays, a double 132kV busbar with two overhead line bays, two cable bays, two supergrid transformer bays and a grid transformer bay. The 275/132kV supergrid transformers will be rated at 480MVA, with the grid transformer rated at 90MVA. The layout of the proposed substation is provided below.



Crossaig Substation – this is an example of a Transmission substation in Kintyre

Environmental Constraints

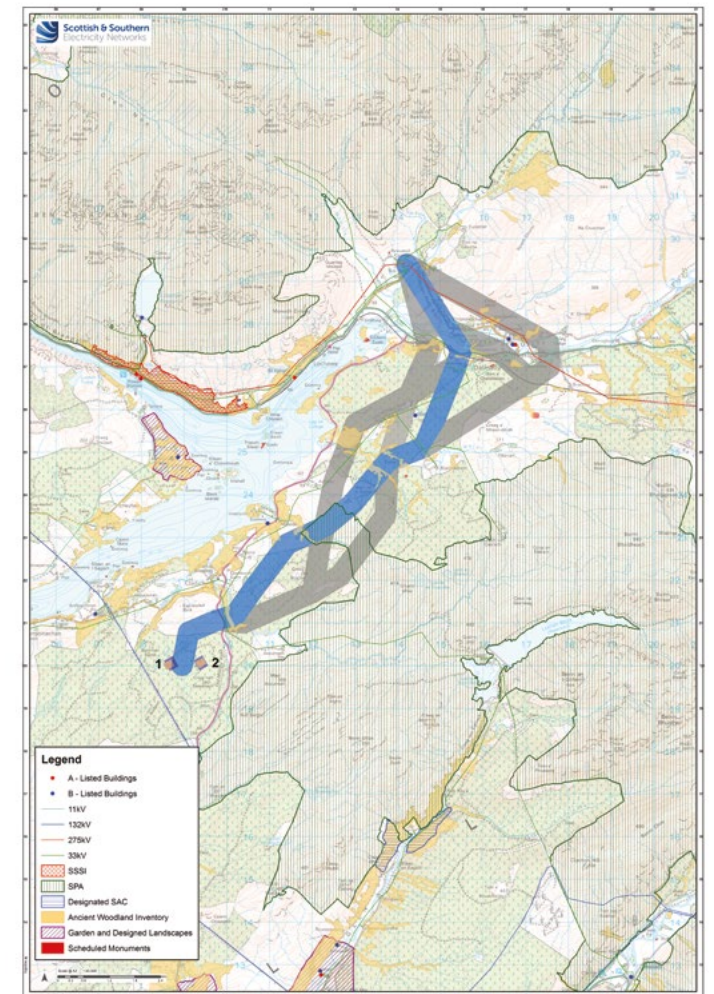


North Argyll substation to Taynuilt

The route corridors identified between North Argyll substation and Taynuilt cross area of plantation forestry, areas of broadleaved woodland and open hillside. East of Loch Awe upland heath is dominant in places, forming a mosaic with acid grassland and marshy grassland.

Bird surveys carried out recorded flights of merlin, hen harrier, golden eagle, white-tailed eagle and osprey. The observations were suggestive of breeding activity for white-tailed eagle and osprey within the survey area. Vantage Point surveys will continue on a monthly basis until April 2017. Black grouse lek and Breeding Bird Surveys are planned for spring/summer 2017.

A habitat survey was undertaken along all the proposed route corridor options in August 2016. This was undertaken in order to map the habitats on site and identify the potential for protected species. The proposed route corridors present potentially suitable habitat for otter, bats, pine marten and red squirrel, water vole and wildcat. Bird surveys commenced in May 2016 and will be completed in 2017.



North Argyll substation to Dalmally

The route corridors identified between North Argyll substation and Dalmally cross large sections of plantation forestry, generally dominated by Sitka spruce with occasional patches of larch. These areas of forestry are active, with continuous felling. Outside of forestry areas the habitat comprises a mosaic of semi-improved acid grassland with bracken, marshy grassland and patches of bog. Open hillside is subject to grazing from livestock in places. Broadleaved trees are scattered across the route corridors.

Bird surveys carried out recorded flights of hunting merlin, peregrine falcon, hen harrier and golden eagle. The records were few in number and no observations were suggestive of any breeding activity within the survey area.

Feedback

Thank you for taking the time to find out about our plans for the North Argyll Reinforcements Project.

We are keen to receive feedback from the local community and other interested parties on our proposals. Please also take the time at the event to speak to members of our project team, who are here to answer any questions you may have and explain the information presented on the boards.

Please take a feedback form. You can complete it today, or you can post it back to us at the address provided. Information can also be posted out to you by our Community Liaison Manager upon request.

Comments

Comments can be submitted as follows:

At the exhibition today

Complete a Comment Form and place it in the box provided.

Online

Complete a Comment Form online by visiting the project webpage:

www.ssen-transmission.co.uk/projects/north-argyll

By post

Complete a Comments Form and post it to our Liaison Manager.

By email

Complete a Comments Form and email it to our Liaison Manager.

Download

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

www.ssen-transmission.co.uk/projects/north-argyll

Request

Information can also be posted out to you by our liaison manager upon request. Please make your comments as specific as possible in order to help us consider them in relation to our proposals.

The closing date for comments on information presented at this consultation is **9th December 2016**.

Project Liaison Manager Kelly Scott



Kelly.Scott@sse.com



07342 026270



Kelly Scott
SHE Transmission
Inveralmond House
200 Dunkeld Road
Perth PH1 3AQ



Follow us

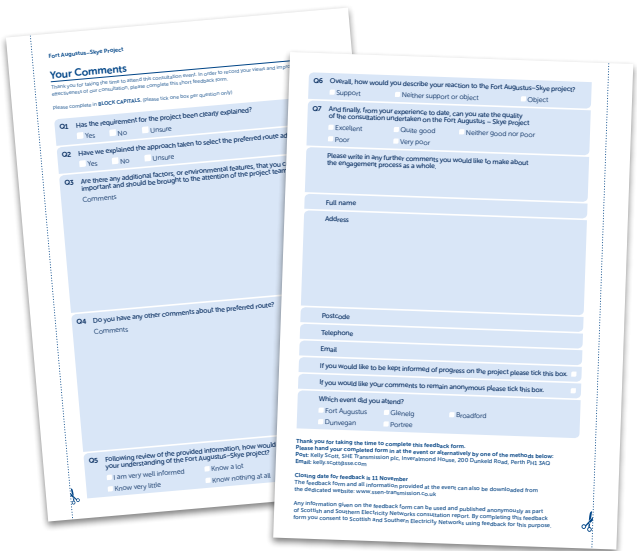
Why not follow Scottish and Southern Energy Networks on social media and keep up-to-date with all latest news and events?

Find us on Facebook

SSEN Community

Follow us on Twitter

@ssencommunity



North Argyll Reinforcements

Your Comments

Thank you for taking the time to attend this consultation event. 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 requirement for the project been clearly explained?

☐ Yes ☐ No ☐ Unsure

Q2 Have we adequately explained the approach taken to select an Overhead Line as the preferred technology?

☐ Yes ☐ No ☐ Unsure

Q3 Have we adequately explained the approach taken to select the preferred route for the Overhead Line?

☐ Yes ☐ No ☐ Unsure

Q4 Are there any factors, or environmental features, that you consider may have been overlooked during the selection of the preferred route for the Overhead Line?

Comments

Q5 Have we adequately explained the approach taken to select the site options for the North Argyll substation?

☐ Yes ☐ No ☐ Unsure

Q6 Which is your preferred location for the North Argyll substation?

☐ A ☐ B ☐ I have no preference

Q7 Are there any factors, or environmental features, that you consider may have been overlooked during the site selection options for the North Argyll substation?

Comments



Q8 How would you describe your knowledge of the North Argyll Reinforcements?

☐ I am very well informed

☐ Know a lot

☐ Know a little

☐ Know very little

☐ Know nothing at all

Q6 Overall, how would you describe your reaction to the North Argyll Reinforcements?

☐ Support

☐ Neither support or object

☐ Object

Q7 And finally, from your experience to date, can you rate the quality of the consultation undertaken on the North Argyll Reinforcements

☐ Excellent

☐ Quite good

☐ Neither good nor poor

☐ Poor

☐ Very poor

Please write in any further comments you would like to make about the engagement process as a whole.

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. ☐

Which event did you attend?

☐ Taynuilt

☐ Kilchrenan

☐ Portsonachan

☐ Damally

☐ I did not attend an event

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

Please hand your completed form in at the event or alternatively by one of the methods below:

Post: Kelly Scott, SHE Transmission plc, Inveralmond House, 200 Dunkeld Road, Perth PH1 3AQ

Email: kelly.scott@sse.com

Closing date for feedback is 9th December 2016

The feedback form and all information provided at the event can also be downloaded from the dedicated website: www.ssen-transmission.co.uk

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.

