

Caithness – Moray Transmission Reinforcement Works in Moray

October 2015

About Scottish Hydro Electric Transmission

“Throughout the life of our projects, we aim to work positively with local communities and keep people informed about what we are doing.”

Scottish Hydro Electric Transmission plc (SHE Transmission) is a member of the SSE plc group of companies. We own and maintain the electricity transmission network across the north of Scotland, in some of the UK's most challenging terrain.

Our activities are closely regulated by the energy regulator Ofgem.

Our licence requires us to develop and maintain an efficient, coordinated and economical system of electricity transmission.

Our responsibilities also extend to ensuring that there is sufficient network capacity to allow new sources of electricity generation to be connected to the grid.

Throughout the life of our projects, we aim to work positively with local communities and keep people informed about what we are doing. This is particularly important when we are developing a proposal and we want to understand what local people think about our plans.



About the Caithness Moray Projects

Thank you for taking the time to read this newsletter. Our project teams working in Moray have included answers to some of the most frequently asked questions about their work and I hope you will find the information useful.

To begin, I will give you an overview of the Caithness Moray Projects. As you may be aware, the generation of electricity from renewable sources in the north of Scotland has been growing fast in recent years. That growth is forecast to continue in the years ahead, with proposed wind, wave and tidal generators contracted to connect.

To provide the capacity needed to accommodate this significant new generation, a major reinforcement of the transmission network serving the north of Scotland is needed.

In response, SHE Transmission is installing a subsea cable, capable of carrying up to 1,200MW (megawatt) of electricity between Caithness and Moray. With associated reinforcement of the existing onshore network, the project represents the largest investment in the North's electricity network since the hydro development era of the 1950s.

The cable at the centre of SHE Transmission's plan uses High Voltage Direct Current (HVDC) technology to transport power between converter stations at Spittal in Caithness and Blackhillock in Moray. This well established technology allows the efficient transmission of a large capacity of electricity across long distances.



Reinforcement of the onshore transmission network between Dounreay and Mybster in the north; and between Loch Buidhe and Beauly further south will improve the use of the existing network in combination with the cable.



Graeme Barclay
Project Director
SHE Transmission

A handwritten signature in black ink, appearing to read 'Graeme Barclay'.



Portgordon to Blackhillock HVDC land cable

“The route, with the exception of road, rail and water crossings is through agricultural land.”

During construction, this project is set to support over 100 new energy careers across the north of Scotland. Importantly, local people will benefit from the hundreds of jobs it is supporting, including via SSE’s industry-leading apprentice, trainee engineer and graduate programmes.

The proposed Moray cable route is an underground circuit which will run from the landfall point at Portgordon to the site of a new converter station adjacent to Blackhillock substation. The route, with the exception of road, rail and water crossings is through agricultural land.

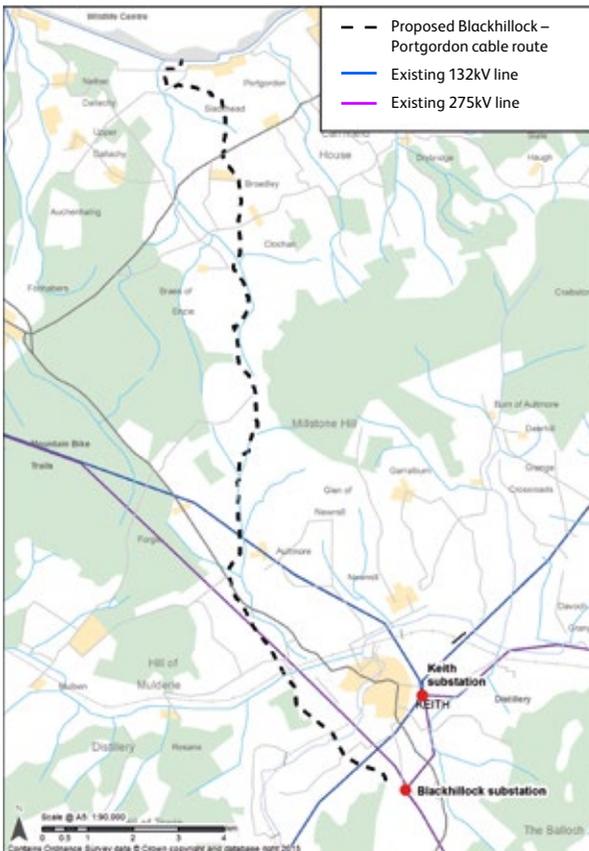
The equipment that will be utilised in the installation of the land cable are;

- Mobile Cranes
- Cable Winches
- Tracked excavators
- Bull dozers
- Tractor and Trailers
- Dumper Trucks
- Drilling rigs
- Lorries for the delivery of all materials
- Lorries for the delivery of all plant to be utilised on site
- Contractors’ site vehicles such as Transit vans and 4x4 vehicles
- SHE Transmission site vehicles such as 4x4 vehicles.

Extensive surveys have already been completed to find the best route – and every stage of the installation process will be closely monitored to ensure the cable is buried and protected safely.

Will there be road closures?

There are currently no full road closures planned for the works. However, there will be the requirement during the course of the works to close single lanes. There will also be temporary traffic signals erected to allow the installation of the conductor. These works will be planned in conjunction with Moray Council.





What will the working hours be?

Standard site working hours:

Weekdays

April – September 07.00 – 19.00 Hours
 October – March 07.30 – 17.00 Hours

Saturdays only

April – September 07.00 – 14.00 Hours
 October – March 07.30 – 14.00 Hours

Who is SHE Transmission’s contractor for these works?

The cable installation works have been awarded to ABB, who have awarded the civil installation package of works to local supply chain partner Daviot Farms Limited (DFL).

ABB’s scope of supply includes submarine and underground cables covering a total transmission length of nearly 160 kilometres.

The advance and enabling works for this project commenced in March 2015 and installation works commence in October 2015. The completion date for the underground cable works is September 2017.

“ABB’s scope of supply includes submarine and underground cables covering a total transmission length of nearly 160 kilometres.”



Blackhillock substation

“The road upgrade was designed and built to suit all substation and converter station construction deliveries and for the future maintenance of the new substation and HVDC converter station.”



Visualisation of the redeveloped Blackhillock Site

Blackhillock substation is essential for the delivery of a number of transmission reinforcement projects and customer connection works within this area. It is essential that the construction of the substation is undertaken in timescales that are consistent with the Caithness to Moray reinforcement to facilitate the connection of the HVDC link from Caithness and also to enable the wider reinforcement of the SHE Transmission system.

How will the substation be accessed?

The substation is accessed via 1.2km of newly upgraded minor road, after turning left off the A96 as it approaches Keith from the south. The road upgrade was designed and built to suit all substation and converter station construction deliveries and for the future maintenance of the site. The road was completed to the satisfaction of Moray Council in September 2014.

Will there be road closures?

No, the access road was completed in September 2014 and no further road closures will be needed as part of the substation works. There will be a small number of large deliveries to the site, which will be managed to minimise any resulting delays.

What will the working hours be?

April to September

Working 12 day on, 2 day off cycle;

Monday to Friday
07:00 – 19:00 Hours

Last Friday in 12 day cycle
07:00 – 16:00 Hours

Saturday and Sunday
07:30 – 16:00 Hours (working weekend)

October to March

Working 12 day on, 2 day off cycle;

Monday to Friday
07:30 – 18:00 Hours

Last Friday in 12 day cycle
07:30 – 16:00 Hours

Saturday and Sunday
07:30 – 16:00 Hours (working weekend)



Converter station

Blackhillock

The existing Alternating Current (AC) network in Moray will feed into the converter station where the AC signal is converted to Direct Current (DC) for transmission through DC cables. The control system for this technology is very advanced and can operate in a number of different modes to ensure the demand for power in the area is met.

What vehicles and equipment will be used to build the converter station?

Standard construction plant and equipment: hydraulic excavators, lifting (cranes), mobile elevated working platforms, earth/stone moving equipment e.g. tracked dozer or similar although this is limited as the site has been prepared and earthworks are complete.

Will there be road closures?

Possibly for transport of large equipment (oversize deliveries) but this is very limited. This would be an exceptional case and our Traffic Management Plan is prepared by our contractor to mitigate impact and inconvenience and ensure such works are carefully planned.

What will the working hours be?

Proposed site working hours*:

Weekdays

April – September	07.00 – 19.00 Hours
October – March	07.30 – 17.00 Hours

Weekends

April – September	07.00 – 14.00 Hours
October – March	07.30 – 14.00 Hours

* These may be subject to change in consultation with stakeholders. The converter project may also adopt similar shift patterns to Blackhillock substation at certain stages of the project.

What is this expected activity?

The converter station project is currently in design phase. Contractor mobilisation for this project is expected in February 2016 with completion in 2018.

“Contractor mobilisation for this project is expected in February 2016 with completion in 2018.”



Meet our team

“SHE
Transmission
is committed
to working
closely with local
communities to
deliver a modern
electricity
network.
If you have any
questions please
do not hesitate
to contact one
of our team who
will be more
than happy
to help”



Kevin Gray
Moray Land Cable
Project Manager



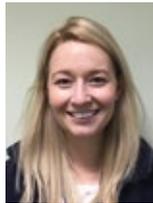
David Fraser
Converter Station
Project Manager



Gary Callaghan
Blackhillock Substation
Project Manager



Ivan Williamson
Project Wayleave
Manager



Jenna Black
Community Liaison
Manager

T: 07876 837490
jenna.black@sse.com



A responsible developer

SHE Transmission is committed to working closely with local communities to deliver a modern electricity network that is ready to meet the challenges ahead.



Safety first

Safety is our first priority in everything we do. We aim to be among the safest companies in the world and will keep looking for new ways to keep our staff, contractors and the public safe. Last year our staff made 96 visits to schools to teach children how to be safe around electricity. When it comes to safety, we think you can't start early enough.



Proud to be an active part of the communities we serve

Our Be the Difference scheme means every member of our staff can take a day of their time each year to work on a community project of their choice. Last year, around 1,500 days of volunteering took place through the scheme. If there is a community or charity project that you think our staff might be able to help with, just ask our team for a form and let us have the details.



Open4Business

To contribute to the economic well-being of the Highlands and Islands, we have developed the SSE Open4Business Highlands and Islands portal. It provides a platform for us to promote opportunities originating in the region, and allows local suppliers to view SSE opportunities, register as a supplier and respond to notices free of charge. Users of the site can then also advertise their own opportunities. To find out more visit: www.sseopen4business-highlands.com or speak to a member of the project team.



Investing in skills for the future

We are committed to investing in the long-term future of our business and the communities where we work. That's why we offer a range of industry-leading training and apprenticeship programmes, with opportunities from school-leavers to graduate engineers.

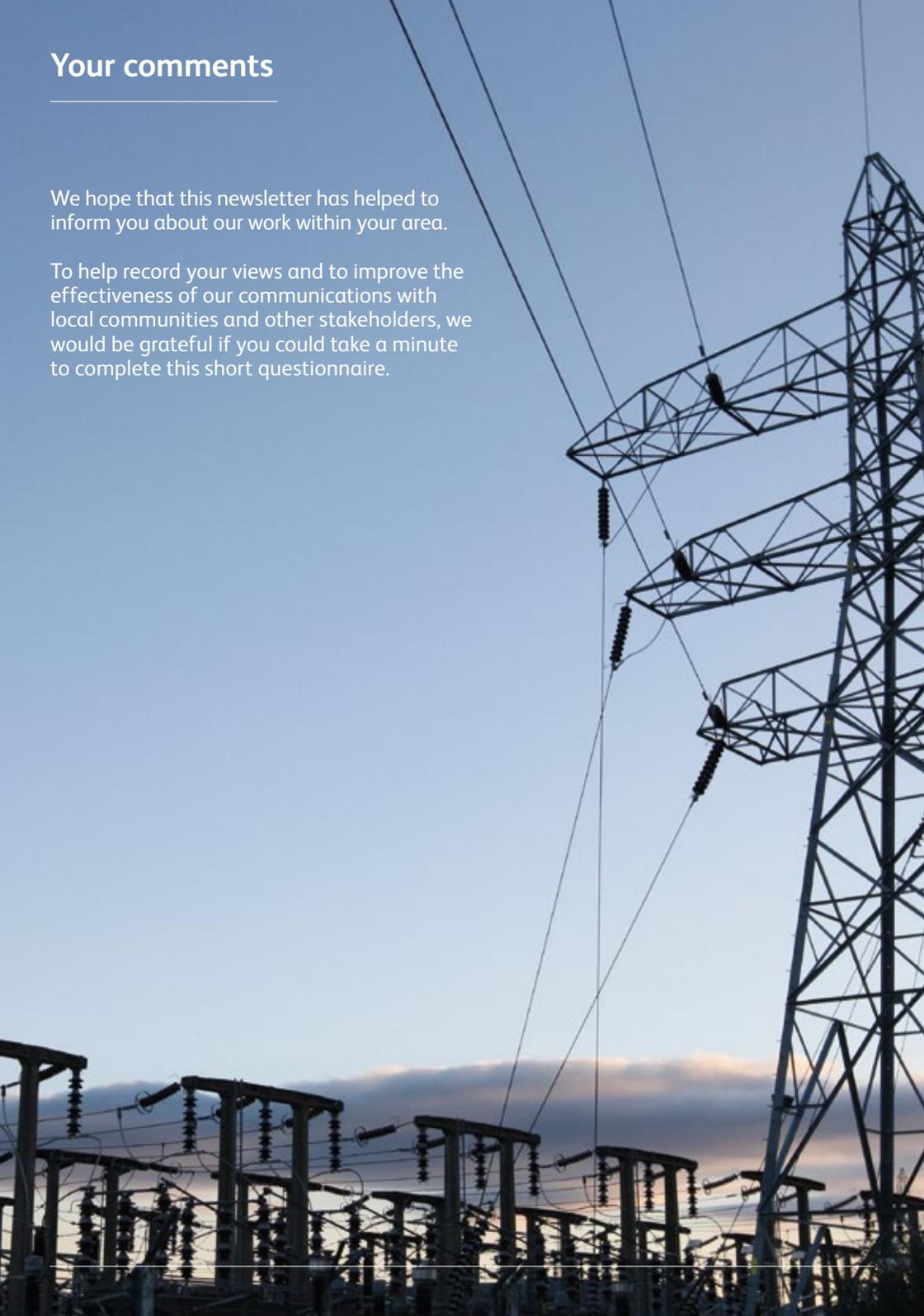
In recent years, we have also delivered an award-winning transmission trainee programme in partnership with Inverness College UHI and Balfour Beatty.



Your comments

We hope that this newsletter has helped to inform you about our work within your area.

To help record your views and to improve the effectiveness of our communications with local communities and other stakeholders, we would be grateful if you could take a minute to complete this short questionnaire.



About you

Please complete in BLOCK CAPITALS

Name _____

Address _____

Telephone _____

Email _____

1. Did you find this information useful?

2. How often would you like to receive this update newsletter?

Quarterly

Bi-annually

3. SHE Transmission sometimes holds public drop-in events to update local people about our work, discuss issues and answer questions. Would you attend an event about our work?

Yes

No



About you

If yes, where would you like to see this event held?

Keith

Portgordon

Other _____

Do you have any questions, comments or suggestions for any of our team?

Which site or location does your question relate to? _____

Question

Thank you for taking the time to complete this form.

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

More information and comment forms can also be found on the dedicated project webpages:
www.ssepd.co.uk/CaithnessMoray

Please return this form to;

Jenna Black, SHE Transmission plc,

Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ

Email: jenna.black@sse.com

Any information given on this comments form may be used and published. By completing this comments form you consent to SHE Transmission using this information for these purposes. If you wish your comments to remain anonymous, please tick the box at the end of this form. By providing contact details you consent to SHE Transmission contacting you in relation to its work in the north of Scotland. Your details will not be used for any other purpose and you can opt out of receiving information at any time by contacting us. This comments form has been developed on behalf of Scottish Hydro Electric Transmission plc (SHE Transmission) which is part of the SSE Group. Registered in Scotland No. SC213461. Registered office: Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ.

