



Shapinsay – Stronsay 33kV Power Cable Repair

Project Name:
Shapinsay – Stronsay 33kV
Power Cable Repair

Location:
Orkney

Client Name:
SSE

Date:
May 2010

Project Summary

Briggs Marine was appointed to repair a failed 33kV power cable between Shapinsay and Stronsay. This forms part of SSEs distribution network around Orkney, which is essential for providing utilities to remote communities.

The cable is a 14.6 km circuit, which was installed in 1992; fault testing identified the faulted to be 1.5km from the Stronsay shore end.

The repair utilised the main cable lay vessel Forth Guardsman with Forth Constructor in attendance. Forth Guardsman is ideally suited for inter-island installations as her shallow draft allows the length of the shore end pull to be minimised.

Our Work

On completion of the fault identification. Briggs conducted an ROV inspection survey of the cable prior to mobilising for repair, the survey allowed the cable team to assess cable condition and identify precise fault location. Fault identification facilitates a robust repair strategy to be developed, which, for this operation, was to install a new shore end from fault location to terminal pole, using 3 spare cable lengths and 3 universal 33kV joints. The cable survey identified a preferred, secure route, for the shore end, which enhances the repaired cable lifespan.

Briggs provided a complete suite of equipment, vessels and personnel required to install the power cable; including survey and positioning packages, dive team and cable jointers. Repair joints were prepared and manufactured on Forth Guardsman, whilst she was positioned in a four-point mooring, assisted by Forth Constructor. Each joint was deployed in turn and the final shore end floated ashore, along the secure route from Forth Guardsman.

The seabed was cleared of redundant cables, which were recovered by Forth Constructor. All materials were disposed of and recycled through authorised channels.

Result

This repair was conducted over a two-week period with the circuit successfully re-energised 2 months from reported fault date, reducing clients' generation costs and securing the remaining network around Orkney.