PFISTERER

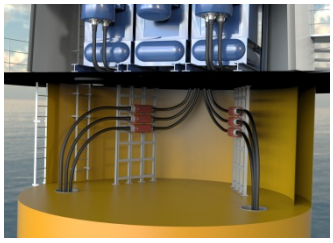
ScottishPower Renewables banks on 66 kV with Connex in the East Anglia ONE wind farm

In cooperation with British cable manufacturer JDR, Pfisterer has received the order for the delivery of Connex cast resin joints and Connex plug connectors for up to 72.5 kV for the networking of the new East Anglia ONE (EA1) wind farm. In the initial phase, the new wind farm includes the construction of 102 Siemens turbines with total output of 714 megawatts. Because of the high output level, the networking will take place with 66 kV. Pfisterer is the only manufacturer with a solution that has proven itself for 20 years in the offshore area.

The new East Anglia ONE wind farm of operator ScottishPower Renewables is being constructed 43 km from the coast of Suffolk in the southern North Sea, and is in the axis between Amsterdam and London. With total output of 714 megawatts, it will be capable of supplying about 500,000 households when it reaches its planned completion in 2020. 102 Siemens turbines, each with 7 MW, will be set up from the middle of next year, and will be connected via two converter stations in a 66 kV network. East Anglia ONE is the first large scale wind farm to be set up with this voltage level. "Because the efficiency and output of wind turbines are constantly on the increase, wind farms all over the world are changing from the previous 33 kV networks to 66 kV networks", explains Peter Müller, Senior Manager Sales at Pfisterer. "We have already had a suitable connection for this output range for connecting the inter-array cables to the turbines for 20 years with the size 4 Connex cast resin joint and the Connex plug connector. The inner cone technology is ideal for this level of capacity, which is why we are receiving many inquiries at present".

More flexibility during installation in the tower

ScottishPower Renewables is also convinced by the solution. The inter-array sea and tower cables are connected with the cast resin joints in the lower tower section of the wind turbines. The dry, i.e. gas-free Connex cast resin joints from Pfisterer are solidly-insulated, pluggable, touch-safe, resistant to salt water and UV radiation, and are also submergible. They are offshore-certified by classification company DNV GL and do not require any additional protection. Their integrated longitudinal water barrier prevents water that is entering because of a cable fault from getting into the other connected cable. Also each phase is connected using a separate joint, therefore making positioning and installation in the tower much more flexible. This also makes it possible for the Connex joint to be re-installed and re-used without having to replace the entire submarine cable in the event of a fault. Pfisterer has been established in the offshore area for decades, and provides a complete range of products for all voltage levels from 12 kV to 550 kV with the Connex family. In this way, the entire cabling within a wind farm can be carried out using the same tried and tested technology – from the submarine cable to the converter platform.



The solidly-insulated, pluggable Connex joints make installation in the tower easier, faster and more flexible.

The Connex fittings for up to 72.5 kV (cast resin joint and plug connector) are the only offshore-certified ones worldwide and are ideally suited to modern 66-kV networks in wind farms.

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Delivery in cooperation with JDR

Pfisterer received the order for the delivery of the HV fittings in close cooperation with cable manufacturer JDR. The presentation of the Connex solution to ScottishPower Renewables also took place in cooperation between the two companies. This was preceded by type testing of the JDR submarine cables in combination with the Connex fittings, which was immediately successful. In April, JDR was then commissioned to supply more than 155 km of inter-array cable by VBMS (UK), including the connecting fittings from Pfisterer. VBMS is a globally experienced offshore installer, and is responsible for the construction of the wind farm.

"We are delighted that we were able to convince ScottishPower Renewables and VBMS with our experience and the tried and tested Connex solution. The implementation of East Anglia ONE with a 66 kV network is a flagship project for the industry, and proof that the entire technology that is required for global conversion to 66 kV is available, from the transformer to the switchgear and also for transmission", emphasises Karl McFadden, Pfisterer UK project leader. Pfisterer is a competent partner for cable manufacturers and offshore companies, and provides a continuous solution from the inter-array connection to the cabling of the platform with Connex. The products in Pfisterer's IXOSIL series are available for the shore connection.

About PFISTERER

PFISTERER is a leading independent manufacturer of cable and overhead line accessories for sensitive interfaces in energy networks. The Group is headquartered in Winterbach, near Stuttgart in southern Germany. PFISTERER develops, produces, and sells internationally successful solutions for 110 V to 1,100 kV voltage levels. With its end-to-end range of products for application in energy networks, consulting, installation, and training, the manufacturer is a valued partner to companies specializing in power supply, plant construction, and electrified rail transport around the world. PFISTERER operates production plants in Europe, South America, and South Africa, as well as sales offices in 18 countries across Europe, Asia, Africa, South America, and the USA. The Group employs around 2,700 employees following the recent acquisition of LAPP Insulators Holding.