

Global Marine Systems installs cable for Gjøa floating platform in North Sea

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Global Marine Systems has announced the successful completion of the Gjøa power cable installation. Gjøa is the first ever floating platform to have power supplied by a direct link from shore, and will contribute to a greener source of energy, reducing carbon emissions by an estimated 210,000 tonnes a year.

Working together, Global Marine Systems and ABB installed the submarine cable which brings electricity from the Mongstad refinery, north of Bergen, Norway, to the oil and gas company's floating production platform in the North Sea.

Gjøa's 100 kilometre high-voltage AC power cable passes through up to 544 metres depth of water and is the world's longest power link to an offshore platform. Installation of a cable to such a depth, over subsea cliffs and very rough subsea terrain poses significant challenges requiring the utilisation of innovative installation techniques.

As senior project manager, Bruce Manning explains: "When laying this type of heavy cable in deep water, control of the lay tension is vital to ensure the cable is not damaged. This is principally achieved by monitoring the point that the cable touches the seabed using a remotely operated vehicle," he said. "The installation process needed to be highly controlled as waves can exceed 7 metres in height (even in Summer) and pose a significant challenge. Lay vessel motion would induce unacceptable stresses into the cable which were alleviated by use of a heave compensated lay chute - the first time this has ever been done."

To guarantee a successful outcome further protection for storm conditions was also made through temporary buoyancy systems which could be rapidly deployed immediately before a storm hits.

"These cutting-edge techniques will enable future offshore interconnector cables and offshore wind farms to be installed in greater depths and more exposed sea areas expected for the next generation of developments," said Manning. "The growth in the use of subsea power cables across the various energy markets is really pushing forward the level of expertise and sophistication required by installers," said Nicola Broom, managing director of Global Marine Systems, Energy. "The successful completion of this project is testament to Global Marine Systems, Energy's ability to adapt to the unique cable handling and individual installation techniques required in these markets."

The Gjøa cable installation was completed on 17th May 2010 using the lay vessel *NO102*.

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