Scottish Subsea Power Cable Installation Supported by MakaiLay Software Solution

The cable deployment control software MakaiLay was commissioned on the Cable Laying Vessel (CLV) Normand Clipper in July 2020 by Global Offshore. Global Marine Group is a leading provider of subsea cable installation, maintenance and burial services worldwide for both telecom and power cables through its brands Global Marine and Global Offshore.

As part of Scottish and Southern Electricity Networks’ (SSEN) Pentland Firth East project, a 37km subsea power cable was installed between the Scottish mainland and the island of Hoy in Orkney. Global Offshore completed the installation using the Normand Clipper with support from Makai and their subsea cable deployment software, MakaiLay.

Powerful Tidal Currents

The cable was installed to a maximum depth of 90m, with the majority of the route between 70 and 80m water depth. The strong tidal currents in the region of the lay were particularly challenging during this installation, with surface currents periodically exceeding 3kts, and currents at depth exceeding 1kt. The Pentland Firth is known to have one of the most powerful tidal currents in the world.

While Global Marine already utilizes MakaiLay software for telecom cable installations, the Pentland East installation marked their first use of the MakaiLay Power Module. The MakaiLay Power Module contains an additional suite of tools designed to address specific issues faced during power cable installations.

"We were impressed with the accuracy of the MakaiLay Power Module, and believe the MakaiLay software will be a key component in proactively managing the cable installation and reducing dependence on ROV monitoring," said Ian Griffiths, subsea and cable operations survey manager at Global Marine Group.

Data from a post-lay survey showed that the average deviation of the MakaiLay calculated as-laid cable path from the post-lay ROV measured path was 0.73m over the entire 34km route.

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