

Oceaneering SCAR Seabed System Proves Instrumental for First Phase of Offshore Wind Farm Project

Seabed system provides boulder clearance for export cable routes



Project Overview

Upon completion, a UK offshore wind farm will generate enough clean energy to power more than one million homes. This clean energy will be generated by 174 giant wind turbines and transported along a 559-mi-long (900-km-long) network of cables.

The Oceaneering Renewables And Special Projects (RASP) team operated its SCAR Seabed System over a 12-week campaign to clear 107 mi (172 km) of export cable routes across challenging seabed features.

Issues

Previously acquired survey data had identified significant boulder fields throughout the export and interlink routes, which would be detrimental to the export cable installation and trenching campaigns. A 72-ft-wide (22-m-wide) corridor was required to be cleared of all significant boulders and obstructions along these routes to allow the successful lay and trench of the proposed export cables.

The selected export cable routes extended out from the beach to the wind farm location in water depths ranging from -16 ft to -197 ft (-5 m to -60 m) at lowest astronomical tide (LAT). Operating from a vessel with a draft of 24.6 ft (7.5 m), the scheduling of all activities in the shallow water locations would need to be carefully scheduled to maximize the available operational time.



Previous Oceaneering experience in this area had highlighted the strength of tidal currents and lack of subsea visibility. Tidal currents in the work area are high during all but the slackest of neap tides, with the effect made worse by the direction of the export corridors crossing the tidal flows. Therefore, to provide an accurate overall schedule duration to our client, it was necessary to include vessel standby periods in our master schedule to reflect these non-productive periods accurately.

The Oceaneering Solution

The RASP team mobilized its 49-mi-wide (15-m-wide) SCAR system in boulder-clearance mode within two weeks of contract award, utilizing an anchor handling vessel (AHV) with an Oceaneering work class ROV. A second vessel followed a week later with a boulder grabbing system, required to locate and remove significant individual boulders in less-dense areas and to also clear areas in the shallowest locations.

Initially, the RASP team was contracted to perform these services on the central export and interlink cable route. However, following the success of the system on these lines, the overall contract was expanded to also include the east and west export cable routes.

The work was performed safely with no injuries recorded, and at operational speeds across ground in excess of those scheduled, thus providing cost savings to our client.

