FUGRO SEACORE

Gwynt Y Mor Meteorological Mast

Fugro Seacore Ltd (FSCL) was appointed as principal contractor by NPower Renewables for a design and construct project to install the 90m high steel lattice mast, including monopile foundation, for wind measurement at Gwynt y Mor offshore wind farm, N. Wales.

FSCL's 8-leg jackup platform Excalibur was mobilised with all permanent works items and equipment onboard for the installation. The monopile foundation, mast support platform, lattice mast and all ladder-ways were manufactured locally and delivered to Mostyn Dock for shipment to the jackup barge.

Excalibur was towed to site by the 55 tonne bollard pull Belgian tug *Boxer,* with final positioning controlled onboard Excalibur by FSCL, using a Fugro Starfix HP DGPS system. Positioning assistance was provided by the tug *Gray Test*, supplied by Felixarc Marine of Felixstowe. The tug also provided full marine support including personnel transfers.

With the jack-up positioned and elevated to operational height, the pile across the stern of Excalibur was lifted to vertical using the onboard Demag twin-hooked crane. The pile was then lowered into the pre-set piling gates in Excalibur's moonpool and lowered to seabed. With the pile adjusted for verticality, it was hammered to design depth using an MHF 10-20 hydraulic hammer.

The boat landing was installed over the foundation and bolted into position before cutouts were made in the pile top to receive the mast support platform. This was installed onto the prepared foundation top and fully welding in place by FSCL crew. On completion a full NDT of the welds was carried out before making good all paintwork.

The lattice mast was installed onto the completed foundation in its component sections and all safety systems, including navigation aids, were installed and commissioned before Excalibur was demobilised from the site.

Anemometry equipment, including temperature probes, electronic recording and transmitting edevices, was installed later by a third party contractor.

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