



Buoyant market

Heather Blackford of Osiris Projects discusses the company's recent developments in survey vessels

Having had involvement in the offshore wind industry for over a decade, Osiris Hydrographic and Geophysical Projects Ltd have witnessed the exponential growth of the sector and subsequent supply chain restrictions. With Round 3 sites presenting obvious new challenges arising from overall advancement in terms of scale and complexity, persisting supply chain issues should not come as a surprise.

Ernst & Young recently highlighted the increase in confidence towards renewables within the lending sector, despite economic anxiety. The offshore wind industry has gained credibility following the Fukushima tragedy, buoyed

by Germany's subsequent decision to phase out their use of nuclear energy. With EU renewables legislation planning the path to 100 percent renewables by 2050, and offshore wind predicted to overtake onshore in terms of investment by 2022, the issue of supply chain bottlenecks is becoming a common topic for discussion.

One such potential concern is the availability of appropriate survey vessels, many of which were originally designed for other purposes and converted for the role. There are, however, a number of firms realising the efficiency benefits to be gained through the design and commissioning of specialist vessels with the particular

demands of surveying taking priority throughout the process. Osiris Projects commissioned one such vessel, Lia, a 15m catamaran, back in 2003 to address these concerns. Designed for speed and manoeuvrability allowing efficient data acquisition at remote offshore, Lia's general design is now a popular choice for crew transfer vessels.

In preparation for Round 3, and after extensive research by the firm drawing upon the two directors' combined 50 years of marine survey experience, Osiris Projects took delivery of a second purpose-built vessel Bibby Tethra earlier this year. Contracts Manager Patrick Clark explains: "The

design process started with many years of researching similar vessels available around the world and the eventual decision to design a semi-SWATH vessel was a truly organic process. Our vessel is proving herself to be ideal for the needs of the larger windfarm sites and, critically, the design keeps operational quality and cost-effectiveness at its core."

The 27.5m LOA DP equipped semi-SWATH (Small Waterplane Area Twin Hull) catamaran benefits from an array of design features enabling effective and efficient surveying. Her low fuel usage combined with relatively fast transit makes her ideal for marine renewables project, and although operated under MCA Small Commercial Vessel code, vessel capabilities include full geophysical, geotechnical, environmental, ROV/Diver or AUV work up to 150 miles from a safe haven.

The semi-SWATH concept, where the hull's main buoyancy is positioned well below the water line, significantly reduces the surface area of the ship's hull close to and at the water line, which means that passing waves have a significantly reduced effect on lifting the hull. This has a dramatic effect on minimising the vessel's heave, pitch and roll motions and delivers a stability profile similar to that of a conventional monohull vessel over twice the size.

The vessel's aluminum hull was built at the Socarenam Shipyard at St Malo in France then towed to the Socarenam yard at Boulogne where it was fitted out. Built to Bureau Veritas (BV) Class rules, Tethra benefits from a comprehensive collection of safety, life-saving and communications equipment that surpasses the requirements of

current legislation.

The vessel's bridge is equipped to an exceptionally high standard with the very latest in navigation electronics, including ECDIS and a bespoke dynamic positioning system (DPI) certified by BV (AM/AT Standard). Motion referencing for both survey and DP operations is provided by a pair of Ixsea high precision motion reference units (MRU). The very latest Ixsea HYDRINS inertial navigation system provides primary data for the survey sensors and a fourth generation Octans fibre optic gyro and MRU provides primary data to the DP processor. Both units act as secondary output/backup to each other and each carries IMO wheelmark approval.

The bridge also houses both the on-line and off-line survey laboratories and is configured with easy access to the rear upper deck and handling equipment with remote control of sonar winches and CCTV monitoring of all on deck activities. All data recording systems are housed in cooled and silenced 19" racking units which are protected by a series of uninterruptible power supplies (UPS). Multiple monitors at each work station allow customised data display to suit various applications. The main helm/operator station has direct communication with the survey room and survey navigation displays are repeated on the bridge.

Deck equipment includes a large hydraulic 'A' frame with an eight ton safe working load, a 2m by 2m moon pool, an 18 t/m knuckleboom crane, container fixing points and twin sonar wells in each hull to enable through hull deployment of USBL and pinger sub-bottom profiler. Reducing the

overall cost of mobilisation, the vessel is permanently fitted with the latest hydrographic survey equipment, with a suite of high resolution sensors including a keel mounted dual frequency RESON 7125 SV2 multi-beam. The company owns six multibeam echosounder systems, two RESON 7125 SV units, a RESON 7101 and three GeoSwath interferometric units. Its agreement with RESON ensures the very latest offerings in hardware, firmware and software from the company for the next five years, effectively future proofing the core systems.

Investment in inertial navigation systems such as our POS MV units and Ixsea Hydrins ensures that Osiris Projects is able to provide high precision data, even in marginal weather conditions. Bibby Tethra is fitted with a series of GPS receivers, the primary survey receiver being a C&C Technologies C-Nav 3050 RTK enabled for precision position fixing and real time vertical reduction. The latest version of QPS Qinsky survey software provides full integration of the various survey sensors, including automated line keeping via the DP system or autopilot, logging of navigation data and peripheral inputs.

As anticipated by the company, Bibby Tethra has received considerable attention not only within the UK, but across Europe, and is currently undertaking geotechnical work in Germany. Being French-built, the firm expects the vessel to have significant involvement in the recently announced offshore wind developments in France.

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