

faith in the offshore wind market and that the vessel will be well received by the customers. *Island Diligence* is the sixth PSV in our fleet which has been rebuilt for other purposes, and this shows the applicability of this tonnage. The preceding vessel *Island Crown* was also originally a PSV-vessel which we decided to rebuild to walk-to-work, and this has been a very successful project for Island Offshore and the owners.”

The Island Offshore Group is privately owned and comprises a group of ship

owning and management companies. It currently operates a fleet of 25 vessels ranging from PSVs and AHTS vessels, to subsea construction vessels and light well intervention vessels.

Another vessel is under construction. The company was established in 2004 and has developed management systems in compliance with the guidelines from DNV and is certified by the Norwegian Maritime Directorate according to the ISM code.

**Andy Smith**



## Tried and tested design goes ‘exclusive’

The Z-Tech® series of tugs was initially developed by Canada’s Robert Allan Ltd way back in 2003, specifically for PSA Marine of Singapore. The revolutionary design incorporates the best handling and operational characteristics of both Z-drive tractor (thrusters forward) tugs and azimuthing stern drive (ASD) tugs. It was the first and original double-ended tug. Some 80 Z-Techs of varying sizes and bollard pulls have now been built, the bulk operating in the US (including the US Navy), the Panama Canal, Singapore and Australia.

Now often imitated, but rarely equalled, this remarkable series is intended for operation primarily in major ports and marine terminals and continues to be refined. The latest completions by Cheoy Lee, the original Hong Kong headquartered builder, with more than 50 per cent of the global fleet on its reference list, are good examples of this.

Developed in conjunction with PSA Marine, the latest advance is a Z-Tech 5000 with an entirely new-look deckhouse and wheelhouse design. Cheoy Lee was awarded two contracts for the construction of the first three of these Z-Tech ‘Exclusive Design Edition’ 5000 tugs, two for PSA Marine and one for South China Towing of Hong Kong, another long-standing Cheoy Lee client. All three were built in one batch and completed in late 2018. The Z-Tech Exclusive Design Edition 5000 tugs maintain all features of the operational characteristics of the original concept. These latest deliveries, named *PSA Polaris* and *PSA Capella* take to 14 the number of Z-Tech tugs in the fleet of PSA Marine, a discerning and expert customer. The third identical tug in the batch for Hong Kong is called *Guilin* after the city in southern China renowned for its dramatic landscape.

The vessels measure 27.4m LOA x 11.5m beam x 5.03m draft. Propulsion of every one of this latest trio is by a pair of Yanmar 6EY26W diesel engines, each delivering 2,080hp at 750 rev/min, driving Schottel SRP 360 FP fixed pitch azimuth thrusters. The tugs offer a bollard pull of 50 tonnes and a free running speed of 12.5 knots both ahead and astern – the double-ended design ensures virtually identical performance irrespective of direction. AC electrical power is provided



by two Perkins diesel-driven Stamford 90ekW generating sets.

Accommodation on board consists of single cabins each for the captain and chief engineer, with two twin berth cabins for the crew, all located on the main deck. It is somewhat difficult to use terms such as ‘fore’ and ‘aft’ in a vessel designed to be operated in both directions but when in true tractor configuration (the thrusters positioned forward) the below deck quarters of galley and mess room are located aft with the main winch up above. This latter device, supplied by MacGregor, is a split drum machine. At the other end of the boat is a windlass from the same manufacturer and Palfinger knuckleboom deck crane. There are sanitary blocks on both accommodation decks.

A high visibility wheelhouse has its split control consoles overlooking the main winch and positioned either side of a tracked SeaPost Pacific DLX marine pilot suspension chair from HO Bostrom. There is a slightly lower mezzanine level giving a good view of the crane and forming a landing in the staircase down to the main deck. The consoles feature a GPS, plotter, AIS, Weatherfax and GMDSS from Furuno and an autopilot by Raytheon Anschütz.

With a worldwide reputation as an innovative operator, PSA marine has a fleet of more than 40 tugs and has towage service operations not just in the busy port of Singapore, ranked as the maritime capital of the world, but also in China, Hong Kong, India, Malaysia and Oman. **AS**