

Singapore yard builds for French

In November 2006 Keppel Singmarine delivered the second of two *RAmpage 5000 Class* offshore support tugs, *Bourbon Rhesos* to its owners, Groupe Bourbon of Marseilles, France, to join *Bourbon Rhode*, which was delivered a couple of months earlier. These are *RAmpage 5000 Class* tugs designed by Robert Allan Ltd, naval architects of Vancouver, BC in response to the demands of the owners for a large, powerful tug capable of supporting offshore terminal operations in very severe weather.

According to Robert Allan, these tugs are capable of the most severe towing duties, but are not as large and as complex as the classes of OSVs and AHTSs typically engaged in similar work. *Bourbon Rhode* is presently working off West Africa.

The Bourbon vessels are of rugged all-welded steel construction, having an extended forecastle deck, with a strongly raked, two-level superstructure above, topped by a wheelhouse providing maximum all-round visibility. The aft deck is equipped with crash rails for cargo, a stern gear arrangement suitable for heavy-duty anchor-handling, and has space to stow two standard ISO containers under shelter as additional support modules for diving or oil-recovery operations. The tugs are built to BV notation, which includes unrestricted navigation, FiFi1 and Oil Recovery. The vessels are registered in St. Vincent and the Grenadines.

The tugs measure 49.50m long overall and have a moulded beam of 15.00m and a nominal operating draft of 4.75m. The propulsion machinery is identical on both boats and comprises a pair of MaK 9M25 diesel engines; each developing 2,970kW at 750 rev/min. These turn Schottel SRP model 3030CP Rudderpropeller units to deliver a bollard pull of 100 tonnes and a free-running speed of 13.5 knots. Schottel also manufactured a 350kW CP tunnel thruster installed at the bow.

Each tug is equipped to carry 580m³ of fuel oil, 130m³ of potable water as well as providing capacity for 118m³ of recovered oil and the foam and dispersants necessary to support its fire-fighting and oil-recovery designations. Some 200 tonnes of deck cargo can also be carried.

With the exception of the crane and tow-hook, all the deck machinery has been provided by the Singaporean manufacturer, Plimsoll. The main towing winch is a double-drum, waterfall configuration hydraulic unit. One drum is set up for towing operations, with 1,000m of 64mm diameter steel wire rope towline whilst the other is set up for anchor-handling, with an identical SWR set-up. The brake capacities are 350 tonnes on each drum.



Other towing gear includes a 350-tonne rated shark jaw system (manufactured by Plimsoll under licence from Smith Berger in the USA), 350-tonne rated towing pins, and a Mampaey radial type tow hook with a 120-tonne SWL rating, having an electro-pneumatic remote control quick-release system.

The transom is fitted with a 4,500mm x 2,300mm diameter stern-roller, with a SWL rating of 200 tonnes. Two 5-tonne hydraulic capstans, two 10-tonne tugger winches, and a Palfinger deck crane, rated 2 tonnes at 15m, complete the aft deck gear complement.

The *RAmpage Class* tugs differ from the typical AHTS by possessing the ability to fulfil the additional role of tanker assistance. For this purpose, heavy-duty fendering is fitted around the bow and a double-drum hawser winch is installed forward, one side suitable for 350m of 64mm steel wire hawser, and the other side sized for 250m of synthetic 'Steelite' rope of 80mm diameter. The brake capacity is rated at 250 tonnes.

Each main engine drives a centrifugal 1,500 m³/hr Nijhuis fire pump via a Kumera-Norgear step-up gearbox with built-in clutch. These pumps feed two 1,200m³/hr monitors, furnished by Fire Fighting Systems AS, mounted on the wheelhouse top, plus a self-protection deluge system. A 23m³ foam tank is served by two electrically-driven foam pumps, rated 36m³/hr.

For FPSO hose-handling and servicing, there is a hose drain sump, recessed into the deck, together with 350mm diameter

hose flushing connections served by the fire-fighting pumps. Electrical power on these tugs is provided by two 250kW Caterpillar 3406 diesel generator sets, and one 580kW Caterpillar 3412 set, all with paralleling capability. An emergency set driven by a Cat 3056 DIT and rated 94kW is also fitted.

Bourbon Rhode and *Bourbon Rhesos* are outfitted to the highest standards for a crew of up to 22 persons. On the lower deck are three double cabins for divers, plus a single for their supervisor, alongside a massive machinery control room, which overlooks the engine room. There is also a large workshop, a laundry and numerous sanitary spaces on this level.

On the main deck, the way into the deckhouse from the rear door, forward of the aft winch, is via an extremely practical entrance lobby, with hanging facilities for wet gear. Further forward, there is a spacious lounge/mess area, smoking and non-smoking day-rooms, a separate fully equipped modern galley with associated reefer stores, a hospital and two twin-berth crew cabins with private facilities. The forecastle deck also houses two double and two single cabins, all en suite, together with a spacious office. A further accommodation deck provides quarters for the master, chief engineer, 1st officer and owner's representative. The entire accommodation is fully air-conditioned.

Since its introduction in 2004, the *RAmpage 5000 Class* of offshore support tugs has been very well received, with three vessels already in service, one under construction, and two under design development.