

First of four Dolphin Class for California

Revolution is the latest in an ongoing series of Robert Allan designed harbour tugs being built at Foss Maritime's yard in Ranier, Oregon, USA. Dubbed the Dolphin-Class, these boats are all virtually identical except for the owner's colour scheme.

This latest vessel is the fourth of the class to be completed but is the first of four ordered by AmNav which, like Foss, is part of the Marine Resources Group of Seattle. These ASD tugs will join the dozen existing AmNav tugs based in Oakland, California serving the San Francisco to Los Angeles area.

The new vessel compares with its immediate predecessors *Morgan Foss* (see IT&S, Nov/Dec 2005) and the slightly later *Campbell Foss*. All these boats are essentially identical to *Mikioi*, delivered in 2004 to Hawaiian Tug & Barge by the same builder. However, a small number of refinements have been made in the later trio from the prototype, based on the operational feedback from its crew. Furthermore, the later boats are not configured as a day-boat, but have two twin-berth cabins below forward accessed by a stairway from the deckhouse.

In addition to the overall contract design package Robert Allan Ltd was also tasked with producing the complete production engineering package for the yard. A complete 3-D steel product model for this series of tugs was developed in ShipConstructor software and



used for NC cutting of all steel parts.

Measuring 23.77m x 10.36m with a maximum draft of 4.57m, the hull is protected by a heavy cylindrical bow fender, located above a belt of Schuyler "Soft-Loop" style fender that extends around the full perimeter of the tug. Power is from a pair of resiliently mounted Caterpillar 3512 B HD diesels, each developing 2,540 bhp at 1,800 rev/min, slightly higher than the previous versions, turning stern-mounted Rolls-Royce Model US 205 FP azimuth thrusters to give a free-running speed of 12 knots. Bollard pull is quoted as 65 tonnes

ahead and 60 tonnes astern. Electrical power is provided by a pair of 125kW Mitsubishi 6D16-T diesel generator sets.

Markey Machinery of Seattle has developed new electric bow and stern winches especially for the Dolphin Class. The type DEPGF-42 electric ship-assist and escort winch installed on the bow features a drum sized for 180m of 8-inch soft-line, a level-wind fairleader, and an auxiliary warping-head. The high-capacity drum brake will hold well over 180 tonnes. This winch-system is also fitted with Markey's proven line-tension display system, which shows the operator the tension in

the line while the drum brake is set. It also has this manufacturer's proven render-recover mode capability, which allows it to be operated hands-free. On the aft deck is a new-design Markey type DEPC-32 deck-winch with a drum to hold 75m of 6.5" soft-line, and with a high-capacity drum brake rated to hold over 90 tonnes.

Below left: The compact wheelhouse contributes to good all-round visibility.

Below: With Markey's own controls, the aft console gives a clear view of the aft deck and specially designed winch.

