



PHOTO COURTESY VANCOUVER DRYDOCK CO

## QUEEN OF NEW WESTMINSTER

In 2008 the 426' x 76' 61,080 tonnes displacement QUEEN OF NEW WESTMINSTER (launched by Victoria Machinery Depot in 1964) was the last in the series of six BC Ferry Services ships to receive a midlife upgrade (MLU) at the Washington Marine Group's (WMG) Vancouver Drydock Company (VDC) in North Vancouver. The contract for the six ships (QUEEN OF COWICHAN, QUEEN OF COQUITLAM, QUEEN OF

OAK BAY, QUEEN OF SURREY, QUEEN OF ALBERNI, QUEEN OF NEW WESTMINSTER) commenced in 2003 at VDC and proceeded at the rate of one ship per year and represented, according to the WMG, over \$190 million in revenue and generated over 1.5 million hours of work. Each ship's passenger accommodations above the car decks were gutted, mechanical work was completed as required, steel was replaced and entire hulls and superstructures received extensive blasting and new coatings. While the QUEEN OF NEW WEST's MLU was the most extensive (the ship has two accommodation decks), the work on that ship described here is indicative, in the main, of the MLUs that all the ships received. All panelling and insulation removed and replaced, some bulkheads moved, renewed accommodation and food services layouts and furnishings, new fire separation, new HVAC systems, new emergency generator, some boiler renewal, install car deck ventilation, piping renewal, rebuild of the Berg CP propellers and the shafts, mechanical work as required on the Wartsila mains and the gear boxes, new Caterpillar bowthrustrer engine. The bulk of the work for all the MLUs (joinery, mechanical, steel, painting etc) was completed by VDC workers and contractors were brought in for other key areas such as electrical, furnishings and custom work.



PHOTO BY BRENDAN COYLE

## POWELL RIVER QUEEN

The POWELL RIVER QUEEN (PRQ) was launched with two sister ferries (BOWEN QUEEN and MAYNE QUEEN) in 1965 by the Victoria Machinery Depot for the fledgling BC Ferries' (BCF) new Gulf Islands routes. The PRQ had its housework raised in 1973 to accept over-height vehicles then, in 1979 all three vessels were stretched, re-engined and fitted with the first right-angle drive

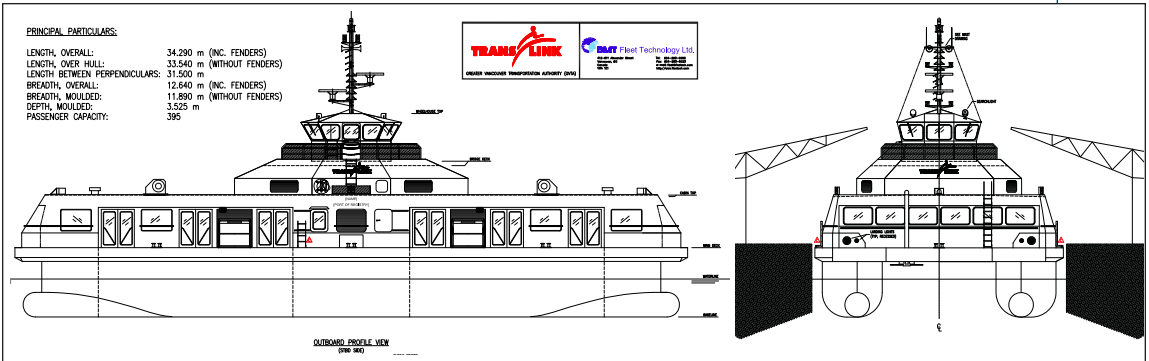
(RAD) units in the BCF fleet. Survey in 2005 showed that the PRQ's deck plating was highly-deteriorated and the supporting framing stressed, with weld cracking, buckling and bowing of frames and plate throughout. This was caused by the constant rolling on and off of vehicles on the PRQ's Campbell River—Quadra Island service, a very short run with quick turnarounds, and was severely compounded by over-weight logging trucks and construction vehicles using the ferry. It was decided to replace the deck as the PRQ was otherwise in very good condition. With only a four-month window available for the job Deas Pacific Marine (DPM; BCFS' in-house refit facility) contracted Aker Yards of Vancouver and they devised a method of engineering prefabricated deck modules consisting of the longitudinal girders and transverse frames, brackets, deck plate and access hatches. Twenty modules would be used (the largest 49' x 27'), each completed as much as possible, inspected and pre-painted. BMT Fleet Technology provided the detailed module engineering and the CNC cutting files. Dynamic Structures did the module pre-manufacture. Meridian Marine installed 14 of the modules (seven at each of bow and stern including tanks, RAD compartments and voids) and Esquimalt Drydock Co. installed the six midship modules in way of the engine spaces. A significant setback – distortion in the vertical bulkheads caused by the release of built-in stresses from the original construction and from installation of new bulkhead panels – was countered with a system of additional bulkhead stiffeners. The total car deck area replaced was 13,500 sq ft using approximately 170 tons of steel plate, angle and beam stock. Clara Industrial Services and DPM applied deck coatings and other upgrades included installations of Roxul A60 fire insulation and a new fire control system. The PRQ project was completed to Lloyds and Transport Canada survey.

See *In the Shipyards: Deas Pacific Marine* in *Western Mariner*, July 2008

IN CONSTRUCTION AT YEAR'S END

**TransLink Third SeaBus**

In order to accommodate an increasing ridership and reach their overall service goal for the TransLink SeaBus passenger-only ferries and bus/train system of seven-minute service, seven days a week, the South Coast British Columbia



Transportation Authority had construction of a third SeaBus started in 2008. The existing two SeaBuses, designed by CELL (Case Existological Laboratories Ltd) of Victoria, have been in service since 1977 on the crossing of Burrard Inlet between the cities of Vancouver and North Vancouver. BMT Fleet Technology of Vancouver was contracted for the new design. While the length, beam and height of the third vessel were required to remain the same as the first two ships so that it fits the configuration of the existing terminals, the catamaran hull form has been designed with changes that will reduce resistance at the service speed of 11.5 knots while reducing wake energy by 10-15%. The all-aluminum ship will receive four 350-hp Detroit Diesel Series 60 (US EPA Tier 2) diesels on HRP 3111WM right-angle drives. At year's end the wheelhouse and the hull were being fabricated at Victoria Shipyards in Esquimalt BC while the crossover structure, with the passenger cabin erected on top of it, were under construction at ABD Enterprises in North Vancouver. The joining of the two structures in the Esquimalt Graving Dock is scheduled for February 2009.

For a complete general arrangement and description of the design of the third SeaBus please see *The Third SeaBus* in *Western Mariner*, July 2008. ◀

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