

De Hoop builds on design success while Fincantieri refines sistership

A chartering success results in three river vessel completions for the Dutch builder while Regal Princess benefits from Royal Princess experience

by Susan Parker

IN March 2013 Shipyard De Hoop was contracted to build three river ships for two connected Australian shipowners operating under the brand names Emerald Waterways and Scenic Tours. It has built two 135m long vessels, *Emerald Sky* and *Emerald Star*, for the former, and one smaller 110m long vessel, *Scenic Gem*, for the latter.

The owners' experience of chartering *Amadeus Silver*, which was built by the Dutch yard, convinced Emerald Waterways to place the order for two sisterships with the same builder. While the initial design was based on *Amadeus Silver*, it was customised to their requirements.

Unlike more traditional river cruise vessels, which are built to a 2.5-deck layout, the sisterships have a three-deck layout. The result is an increase in floor space of about 500m², which is primarily used for passenger spaces.

Planned for operation on the rivers Rhine and Danube from Amsterdam to the Black Sea, the air draught has to be restricted to 6m to allow safe passage under bridges.

With the 2.5-deck design this was achieved with water ballast, a partially-retractable wheelhouse and hinged masts. With the three-deck design, the wheelhouse can be fully retracted and the handrails and sun awnings can be hinged down.

The first of these vessels, *Emerald Sky* (NB462) was delivered in April, followed by *Emerald Star* (NB464) three weeks later. Each has a length overall of 135m, a beam overall of 11.45m, depth of 3.25m, operational draught of 1.45m, ballast draught of 2.1m and air draught of 6m.

With 92 cabins each vessel can accommodate a total of 182 passengers. The three categories of suites - of which there are 72, all with balconies - range in size from 17m² to 30m² making them among the largest in the river cruise market. Of the 20 staterooms, 18 are double berth (15m²) and two are single (12m²). The crew of 56 are accommodated in 26 double and four single berth cabins.

In a break with building tradition the vessels will have a mid-level 6m by 4m pool with bar at the stern. This area can be used for small private lunches, for example, during the day. By

night it can be converted into a cinema with seating for over 30 people, or a dance floor.

The interior design posed some challenges for the yard in terms of detailed engineering. They included the large open spaces of the three-deck 8m high atrium, the glass stairs, two huge TV screens, the adjustable swimming pool floor, the cinema arrangement and the many folding and sliding doors and glass panels.

Public spaces on the top deck include a sun deck, a bar, a mini-golf putting green, a chess board and a walking track. Below, aft on the Horizon deck is a full-width multi-functional space organised around a bar. This is where the swimming pool is located, which converts to a cinema annex and dancing hall by means of an adjustable floor which can be raised above the pool water level. This area has a sliding sunroof and full-height windows.

On the same deck forward is the Horizon Bar and Lounge. This is multi-functional and can be separated into smaller spaces using integrated partition walls. The lounge area features a sushi bar. The outside adjacent terrace is shielded against the

wind by transparent screens and has a sun awning. A fitness studio and massage therapy room are located aft on the Vista deck. Amidships port and starboard are the embarkation points. This deck is also home to the reception area, tour manager's desk and souvenir shop. Forward is the Reflections restaurant with 182 seats. Bicycle storage for the vessel's e-bikes is also located on this deck.

On the lowest level, Riviera deck, is the accommodation for the 56 crew as well as a dedicated mess/dayroom. The laundry and linen room are also on this level, as well as a beauty room and hairdresser.

The vessel is fitted with two Caterpillar C32 ACERT diesel engines each with an output of 746kW, providing a service speed of 12 knots. These power two Veth Propulsion Z-drives with contra-rotating propellers, each of 746kW. These recessed and ducted thrusters, combined with the refined and optimised hull shape, help to make the ship fuel efficient.

Water-cooled exhaust lines leave the ship through the

PRINCIPAL PARTICULARS	
Length oa	135m
Beam oa	11.45m
Beam moulded	11.10m
Depth	3.25m
Draught, operational	1.45m
Draught, ballast	2.10m
Air draught	6.00m
Service speed	12 knots

cruise ship profile

transom via venturi nozzles, minimising smell and smog from exhaust gases on the aft deck. This also reduces noise levels.

The Veth 4K-1200 bow thruster is shaft-driven by a Caterpillar C18 diesel engine. The jet-type thruster uses four outlet ports in a cruciform arrangement allowing for 360 degrees of thrust at minimum immersion. Being shaft driven, this arrangement allows for the installation of a shaft generator capable of providing 450kVA.

There are two more Caterpillar C18 diesel generator sets of 500kVA in the aft engineroom and one Caterpillar C6.6 emergency diesel generator set of 156kVA in the bow thruster room.

The presence of the shaft generator forward allows for complete shutdown of the aft engineroom during the night when moored alongside, generating less engine noise and lower exhaust emissions.

With passenger spaces located above or in the vicinity of the propulsion and engine spaces aft, extra measures were made to meet sound and vibration level requirements. For example, the aft superstructure is placed on gas-filled dampers isolated from the hull and the rest of the superstructure.

A steel shell around the pool rests on the longitudinal separation bulkhead between the port and starboard side aft engine compartment and forms the separation between the hull's technical spaces and the public spaces above.

The engineroom is protected with an FM200 fire extinguishing system from Minimax. Forward of the engineroom is a technical space mostly occupied by a sewage treatment plant from Martin Systems, a chiller unit from Imtech Marine and ballast pumps. The laundry and linen store separate this space from the crew accommodation.

The pumps, accumulators and bottles for the firefighting and Imtech sprinkler system for the accommodation are located in a technical space just forward of amidships on the starboard side. For provisioning, two shell doors are fitted near the bow above the galley. This has a separate scullery, hot and cold food preparation area and patisserie. All the galley equipment has been supplied by Metos.

A small tender boat for the crew is located on the aft mooring deck on a cradle with a crane mounted above for deployment. This aft deck and the fore deck are outfitted with bollards and mooring and anchor winches. Davits are fitted on both sides of the vessel, above the entrances, for lowering and lifting the gangway.

An innovative feature of the climate control system



Shipyards De Hoop management team: Patrick Janssens, chief executive officer (front), Fré Drenth, technical director (left) and Johan Fasel, director of operations (right)

supplied by Imtech Marine Netherlands enables the corridors to be used to transport hot and cold air at low speeds. More conventional systems use dedicated ducts for transporting air at high speeds. The removal of these ducts allows for higher ceilings and less maintenance. In addition, the low speed method makes the system quieter.

Dutch designer and builder Shipyards De Hoop has two shipyards: De Hoop Lobith in the east of the country, with 135 employees, and De Hoop Foxhol in the north with 65 employees. Each has slipway facilities for vessels of up to 200m in length. For the next three years the orderbook of both facilities comprises 24 newbuildings of various types. **PST**

Emerald Sky has a three-deck layout

