

First vessel of the new TESS 58 Aeroline design delivered to UM Bulk AS

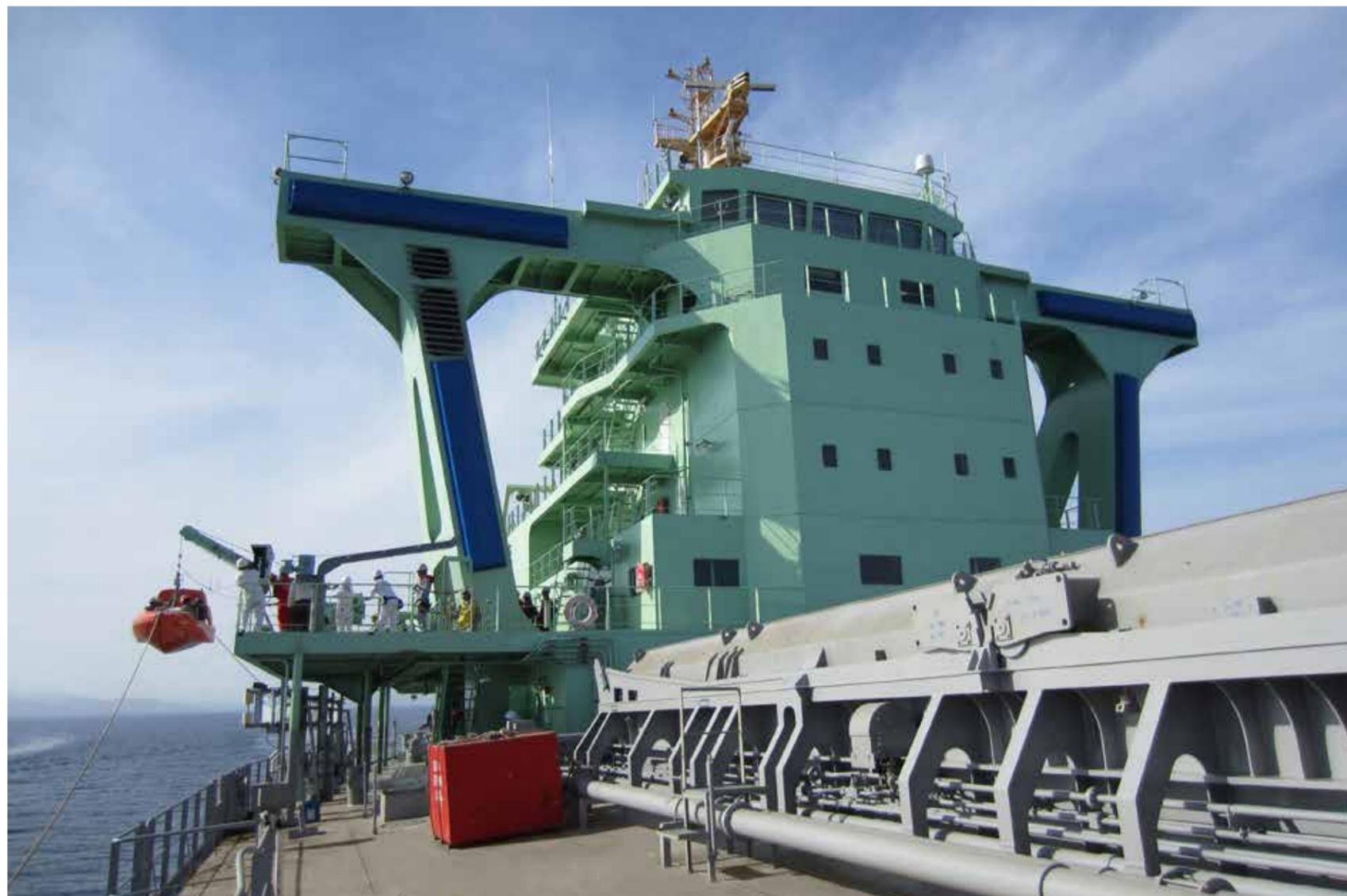
On 10 March 2015, UM Bulk AS took delivery of MV Ellenita, the first vessel of the TESS 58 Aeroline design delivered by the Tsuneishi shipbuilding group of Japan. UM Bulk AS is a 50/50 joint venture between The J.J. Uglund Companies (JJUC) and Mitsubishi Corporation. Both companies have a long-standing relationship with Tsuneishi. JJUC already has a number of TESS 58 bulk carriers in the fleet. TESS is an abbreviation for Tsuneishi Economical Standard Ship, and a large number of vessels of this 58 000 tdw design have been delivered to shipping companies around the world. These supramax bulk carriers have a reputation for being reliable, versatile and fuel-efficient.

With its new Aeroline design, Tsuneishi has improved upon the standard TESS 58 to make the ships even more fuel efficient and environmentally friendly without changing the main hull proportions and cargo capacities. UM Bulk AS and JJUC are focusing on eco ships for their newbuildings and believe this makes sense both from a business perspective as well as from an environmental perspective.

Some of the important features of the new TESS 58 Aeroline design are described below. Ellenita is expected to show significant savings in fuel consumption, while maintaining the well-known TESS 58 characteristics of being a reliable, versatile and efficient ship to operate.

The accommodation building is turned 90 degrees to reduce air resistance together with more streamlined bridge-wings (curved construction painted blue), rounded hatch-covers and a modified bow. These are the most visible innovations compared to the standard design, but there are also a number of innovations below deck.

The main engine turbo charger has a separate air intake on starboard bridge-wing. The main engine is a MAN B&W 7 cylinder S50ME-B9 electronically controlled two-stroke engine. The design and performance parameters have been upgraded and optimised to comply with the International Maritime Organisation (IMO) Tier II emission regulations.



The advantages of the ME-B are quite extensive and listed below:

- Its control system is delivered with more precise timing, giving better engine balance with equalised thermal-load in and between cylinders.
- Lower specific fuel oil consumption (SFOC) and better performance parameters thanks to variable electronically controlled fuel injection timing.
- Appropriate fuel injection pressure and rate shaping at any load.
- Improved emissions characteristics, with smokeless operation.
- System comprising performance, adequate monitoring and diagnostics of engine for longer time between overhauls.
- Lower rpm possible for manoeuvring

Central cooling seawater pumps have a frequency inverter system to regulate speed (rpm) to reduce power consumption.

Ellenita has ballast water treatment system with two separate mud strainers and back flushing to sea to avoid mud being pumped into the ballast tanks, and with chemical treatment for neutralising and disinfection of the ballast water.

Also worth mentioning is the hull appendage MT-FAST, which is an energy saving device that reduces fuel consumption. Its multiple blades are fitted ahead of the ship's propeller to reduce the swirl generated by the propeller and thereby enhance propulsion efficiency.

Finally, a newly designed propeller together with an asymmetric high lift reaction rudder with a bulb will contribute to improved performance.



From left, photo no. 2:

The Main Engine Turbine Hydraulic System (THS) enables waste heat recovery on the main engine turbine side. When the main engine is running at more than 50% power, the turbocharger will produce hydraulic power to transfer to the crankshaft by means of hydraulic pumps driving a hydraulic motor fitted to the forward end of the crankshaft.

From left, photo no. 3:

The shaft generator system will produce sufficient power at sea to avoid running diesel generators for producing electric power and thus reduce fuel consumption. This is the most energy efficient way of producing electricity at sea.