

## Delivery of first German built “Green Coastal Tanker” at the LINDENAU Shipyard

On Thursday, **October 29th, 2009 11 a.m.** our newbuilding **S 284**, a **1.785 tdw / 1.700 m<sup>3</sup> green coastal tanker for the Seychelles**, will be delivered at LINDENAU Shipyard in Kiel-Friedrichsort to the Seychelles Oil Company Seychelles Petroleum Ltd.

The newbuilding, which was ordered by the national shipping company “Seychelles Petroleum Ltd.”, is a new development designed in close cooperation by the LINDENAU shipyard and Seypec. The tanker was developed to ensure the economical and environmentally safe transport of oil and gas products within the “inner islands” of the Republic of the Seychelles.

The vessel is characterized by the following technical details:

Classification: GL  100 A5 RSA (50) Product Tanker  
Equipped for carriage of oil products in bulk  
Equipped for carriage of liquefied petrol gas in bulk  
 MC AUT

### Technical data:

Length overall:	67,80 m
Length between perpendiculars:	63,70 m
Breadth moulded	13,20 m
Depth to main deck moulded:	5,20 m
Draught (design):	3,90 m
Draught (scantling)	4,20 m
Deadweight, scantling	1.785 t
Cargo tank capacity 100%	1.700 m <sup>3</sup>
Main engine output:	2 x 473 kW
Speed at 3,90 m draught and 2 x 278 kW:	11,0 kn

With this newbuilding LINDENAU re-sets new standards for the environmentally friendly and economical transportation of gas and oil products at sea.

## **A. Design criteria**

1. The ship owner gave the yard the following essential conditions:
  - a) The provisioning of the islands in the national waters of the Seychelles with oil products and LPG, with an extremely safe, economical and ecological ship.
  - b) To be used as a bunker ship for foreign vessels that temporarily stop in the harbour of Victoria.
  - c) An educational and training ship to be used to educate and to trainee seamen and officers (Ship and Machinery).
2. The ship must have a deadweight of at least 1.550 t and a cargo tank capacity of at least 1.650 m<sup>3</sup> for oil and 100 m<sup>3</sup> for LPG and should be equipped for a crew of 13.
3. The ship may not be longer than 67,8 m.
4. The ship must have a service speed of at least 10 kn in the coastal areas of the Seychelles islands.
5. The ship must have minimum fuel consumption. This requirement is achieved by optimising the ships lines, large propellers and a extremely favourable block coefficient.
6. The ship must have an easy, safe and efficient manoeuvrability for berthing at terminals as well as other ships. This will be achieved due to the efficient and powerful bow thruster and the highly efficient full-spade profile rudders.
7. The operation of the ship must be highly flexible. It must be used as a provisioning ship as well as a bunker ship with different draughts and semi filled cargo tanks.
8. Design result

Through a comparison study, the Hamburger Schiffbauversuchsanstalt (HSVA) was able to confirm that the LINDENAU newbuilding was in a top range of similar ships. With reference to the speed/Power ratio, the LINDENAU ship was the best (taking the breadth of the ship in account). The ship also reached excellent results in respect to manoeuvrability because of the two variable pitch propellers, its two rudders and the bow thruster.
9. The newbuilding received first class aggregates, exclusively delivered by European suppliers. This guaranteed reliability and reduces costs for operations and maintenance.

## **B. Cargo system**

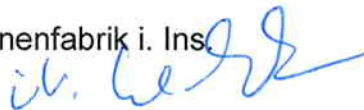
10. The double hull tanker's cargo space consists of 2 x 3 epoxy-coated cargo tanks with absolute smooth tank surfaces. The stiffeners of the main deck face outwards. Hereby the following advantages arise:
  - a) Short discharge times
  - b) Minor cargo residues
11. A high cargo flexibility is achieved by the different cargo tank sizes as well as a high cargo tank volume / deadweight ratio.
12. The newbuilding will be equipped with a computer based cargo monitoring and indication system in the wheelhouse control desk with the following functions:
  - Cargo and slop tank level indication with tank radar
  - Cargo temperature indication and monitoring with two sensors arranged at different heights
  - Cargo tank pressure monitoring with given alarms
  - Draught measure system with 4 sensors
  - Tank level indication of ballast and storage tanks
13. A central, computer operated remote control system for the cargo pumps, cargo valves and ballast valves is installed in the wheelhouse control desk. Ballast pumps will be manually (push button) controlled from wheelhouse desk.
14. The powerful electric driven deck mounted screw pumps will enable a total cargo separation, very short discharge times and thus very short times at the terminals or bunkered ships.
15. The new building will be equipped with an online loading computer which is connected to the integrated cargo monitoring and indication system as well as to the tank level measurement system for ballast and engine room storage and consumable tanks. This loading computer enables the crew to control the longitudinal strength, intact and damage stability during loading and discharging online. Furthermore it is possible to simulate the loading and discharging procedure, to calculate loading conditions for pre-planning and to check each loading condition.

### **C. Engine room, Navigation and Communication**

16. The engine room is optimised to the economical arrangement of all aggregates including the pertaining pipes, cable trays and air ducts. All workstations are designed according to ergonomic aspects.
17. The integrated engine control system and power management system of auxiliary diesel engines will ensure an economical, environmental and safe operation of engines.
18. The installation of an integrated bridge system with two anti collision radar systems in combination with an ECDIS will ensure the highest standard of safe navigation.
19. The integrated navigation system of this new building will be equipped with an Automatic Identification System (AIS)

Kiel-Friedrichsort, 29. Oktober 2009  
D.Li/Wal/Ja/Hü

LINDENAU GmbH,  
Schiffswerft & Maschinenfabrik i. Ins.



Enclosure: Type sketch (1 page)