

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 132.

23 NOV 1935

Date of writing Report

20th Nov. 1935

When handed in at Local Office

20th Nov. 1935

Port of

Winterthur

No. in Survey held at

Winterthur

Date, First Survey

4th March 35

Reg. Book.

on the ~~Single~~ ^{Twin} Screw vessel

"DUNEDIN STAR"

Number of Visits

Tons { Gross
Net

Built at Birkenhead

By whom built Messrs. Cammell Laird & Co. Yard No. 1009 When built

Engines made at Winterthur

By whom made Messrs. Sulzer Bros. Ltd. Engine No. 6519 When made 1935

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 12000 (2 Engs)

Owners Messrs. Blue Star Line Ltd.

Port belonging to London

Nom. Horse Power as per Rule 2516 (2 Engs) Is Refrigerating Machinery fitted for cargo purposes

Yes. Is Electric Light fitted

Trade for which vessel is intended

28³/₈49³/₈

IL ENGINES, &c. Type of Engines Sulzer solid injection engines 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 850 lb. Diameter of cylinders 720 mm. Length of stroke 1250 mm. No. of cylinders 18 (2 Engs) No. of cranks 18 (2 Engs)

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 910 mm. Is there a bearing between each crank Yes.

Revolutions per minute 120 Flywheel dia. 2350 mm. Weight 2000 Kg. Means of ignition Compression Kind of fuel used heavy fuel oil

Crank Shaft, dia. of journals as per Rule 470 mm. Crank pin dia. 490 mm. Crank Webs Mid. length breadth Thickness parallel to axis 1305 mm.

Flywheel Shaft, diameter as per Rule 470 mm. Intermediate Shafts, diameter as per Rule 377 mm. Thrust Shaft, diameter at collars as per Rule 396 mm.

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the

propeller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes. Means of lubrication

forced. Thickness of cylinder liners 45 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Yes. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. 2. Sea water pumps for fresh water cooling. Standby for jacket cooling

Bilge Pumps worked from the Main Engines, No. 1. Harbour sea & fresh water cooling pump, standby for piston cooling

Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 3 sets, 1 spare Cross heads 6

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. 1 Tandem D.A. each eng. Diameter 1750 mm. Stroke 750 mm. Driven by crankshaft

Auxiliary Engines crank shafts, diameter as per Rule 179 mm. Journals: 210 mm. Pins 180 mm. Position —

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes.

Can the internal surfaces of the receivers be examined and cleaned Yes. manhole Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure Actual

Starting Air Receivers, No. 2 Total cubic capacity 32 cub. metres Internal diameter 1532 mm. Thickness 34 mm.

Seamless, lap welded or riveted longitudinal joint fusion welded Material S.M. Steel Range of tensile strength 28-32 Working pressure Actual

W1164-0158

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only.

PLANS. Are approved plans forwarded herewith for Shafting 4-3-35.

Receivers 19-8-35.

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes.

State the principal additional spare gear supplied

See separate list

The foregoing is a correct description.

Sulzer Brothers Limited
München

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 4-3-35 to 12-11-35 - 77 visits
During erection on board vessel - -
Total No. of visits

Dates of Examination of principal parts—Cylinders 19-9-35, 4-10-35. Covers 19-9-35, 4-10-35. Pistons 19-9-35, 4-10-35. Rods 19-9-35, 4-10-35. Connecting rods 19-9-35, 4-10-35.

Crank shaft 19-9-35, 8-10-35. Flywheel shaft 19-9-35, 8-10-35. Thrust shaft 19-9-35, 8-10-35. Intermediate shafts. Tube shaft. Screw shaft. Propeller. Stern tube. Engine seatings. Engines holding down bolts.

Completion of fitting sea connections.

Completion of pumping arrangements

Engines tried under working conditions

Crank shaft, Material Ann. S.M. Eng. Stl. Identification Mark Lloyd's No. 11165, M.B. 8-5-35, 15375, K.H. 16-5-35. Flywheel shaft, Material Ann. S.M. Eng. Stl. Identification Mark Lloyd's No. 9648, J.L. 11-4-35.

Thrust shaft, Material Ann. S.M. Eng. Stl. Identification Mark 11236, M.B. 18-6-35, 11259, M.B. 27-6-35. Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark. Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F. Yes.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials and workmanship good. Full power trials of engines in shop satisfactory.

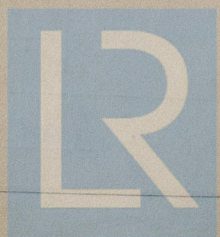
The engines have been dispatched to Messrs. Cammell Laird & Co. Ltd., Birkenhead, to be installed in the vessel.

The amount of Entry Fee .. £ 150: When applied for, 31st Oct. 1935
Special ... £ 4073:
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ : When received, 2nd Nov. 1935

Committee's Minute

Assigned

W.B. Gallis
Engineer Surveyor to Lloyd's Register of Shipping.



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