

## REPORT ON OIL ENGINE MACHINERY

No. 11524

Received at London Office

17 MAY 1935

Date of writing Report

19

When handed in at Local Office

16<sup>th</sup> May 1935

Port of

BELFAST

No. in Survey held at BELFAST  
Reg. Book.Date, First Survey 24<sup>th</sup> May 1934 Last Survey 11<sup>th</sup> May 1935

Number of Visits 29

91071 on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel

ROTHESAY CASTLE

Tons { Gross  
Net

Built at Belfast

By whom built Harland &amp; Wolff Ltd.

Yard No. 944 When built 1935

Engines made at Belfast

By whom made Harland &amp; Wolff Ltd.

Engine No. 944 When made 1935

Donkey Boilers made at Belfast

By whom made Harland &amp; Wolff Ltd.

Boiler No. 944 When made 1935

Brake Horse Power 7000

Owners Union Castle Mail Steamship Co. Ltd.

Port belonging to London

Nom. Horse Power as per Rule 1643

Is Refrigerating Machinery fitted for cargo purposes Yes

Is Electric Light fitted Yes

Trade for which vessel is intended

Ocean. Convoy.

24.6

55.5

OIL ENGINES, &amp;c.—Type of Engines Harland &amp; Wolff - 8 cyl. diesel 2 or 4 stroke cycle 2 Single or double acting double

Maximum pressure in cylinders 700 lbs. Diameter of cylinders 620 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 946 mm Is there a bearing between each crank Yes

Revolutions per minute 93 Flywheel dia. 2482.8 mm Weight 2500 Kg Means of ignition Compression Kind of fuel used diesel oil

Crank Shaft, dia. of journals as per Rule 484.5 mm as fitted 500 mm Crank pin dia. 80 mm Crank Webs Mid. length breadth 980 mm Mid. length thickness 312 mm Thickness parallel to axis 312 mm Thickness around eye hole 235 mm

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 17.29" as fitted 18" Thrust Shaft, diameter at collars as per Rule 18.78" as fitted 480 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 19.31" as fitted 19.31" Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 29/32" as fitted 1" Thickness between bushes as per rule 27/32" as fitted 27/32" Is the after end of the liner made watertight in the

propeller boss Yes 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 No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 8" Propeller, dia. 19.6" Pitch 18.4" No. of blades 14 Material Mang. Br. whether Moveable No. Total Developed Surface 125 sq. feet

Method of reversing Engines air motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

friced Thickness of cylinder liners 4.2 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

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

Cooling Water Pumps, No. Two of 300 Gals/hr Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size Two (Bilge) 105 Gals/hr (Ballast) 150 Gals/hr

Ballast Pumps, No. and size One 150 Gals/hr Lubricating Oil Pumps, including Spare Pump, No. and size Two of 200 Gals/hr

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

Pumps, No. and size:—In Machinery Spaces Two of 1 1/2" Stroke of 2 1/2" Two of 2" Tunnel well 4" Drain Tank 2 1/2"

In Holds, &amp;c. Two 1 1/2" + 4" Holds Two of 3 1/2" each

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two of 5"

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

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

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

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

What pipes pass through the bunkers None How are they protected

What pipes pass through the deep tanks None Have they been tested as per Rule Yes

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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck.

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. Two No. of stages Two Diameters 280 mm + 280 - 245 mm Stroke 130 mm Driven by Electric motor

Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 106.34 mm + 34 mm Stroke 80 mm Driven by Steam engine

Rotary Scavenging Air Pumps, No. Two of 404 M<sup>3</sup> Capacity Diameter at 389 R.P.M. + 1.2 atmos abs. Driven by gear & main engine

Auxiliary Engines crank shafts, diameter as per Rule 199.7 mm as fitted 280 mm Position — mid of motor room.

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 Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. One Cubic capacity of each 180 litres Internal diameter 14" thickness 1/2"

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 28-32 Working pressure by Rules 966 lbs. Actual 320

Starting Air Receivers, No. One Total cubic capacity 1076 cub. ft. Internal diameter 5'-4 1/16" thickness 1 1/2" Working pressure by Rules 356 lbs. Actual

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

W450-0095



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

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

No

PLANS. Are approved plans forwarded herewith for Shafting

Yes

Receivers

Yes

Separate Tanks

Yes

Donkey Boilers

Yes

General Pumping Arrangements

Yes

Oil Fuel Burning Arrangements

Yes

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes

State the principal additional spare gear supplied

See attached list.

The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED,

Manufacturer.

1934  
Dates of Survey while building  
During progress of work in shops - May 24 Aug 24 28 29 Oct 19 23 Nov 12 14 16 19 22 26 27 Dec 5 7 10 12 Jan 4 7 9 10 16 17 18 21 23 24  
During erection on board vessel - 28 29 31 Feb 1 4 8 12 13 14 15 18 19 20 21 22 25 26 27 28 Mar 1 2 4 5 6 7 8 11 12 13 14 15 18 19 20 21 22 25 26 27 Apr 1 3 4 5 8 13 14 18 20 25 26 27 29 30 May 1 2 4 7 8 9 10 11  
Total No. of visits 89

Dates of Examination of principal parts—Cylinders and Covers 15.2.35 Pistons 15.2.35 Rods 13.2.35 Connecting rods 25.1.35

Crank shaft 27.2.35 Flywheel shaft Thrust shaft 4.2.35 Intermediate shafts 4.2.35 Tube shaft

Screw shaft 4.2.35 Propeller 18.1.35 Stern tube 28.1.35 Engine seatings 20.2.35 Engines holding down bolts 2.4.35

Completion of fitting sea connections 13.4.35 Completion of pumping arrangements 8.5.35 Engines tried under working conditions 9.5.35

Crank shaft, Material S.M. Steel Identification Mark LLOYD'S 216 R.L.A. Flywheel shaft, Material Identification Mark

Thrust shaft, Material S.M. Steel Identification Mark LLOYD'S 1589 R.L.A. Intermediate shafts, Material S.M. Steel Identification Marks LLOYD'S 1582-1564

Tube shaft, Material Identification Mark Screw shaft, Material S.M. Steel Identification Mark LLOYD'S 118-1564

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 Yes

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 Yes

If so, state name of vessel "Roslin Castle"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey. The materials + workmanship are sound and good. The main engines and auxiliaries have been efficiently installed and tried out under working conditions with satisfactory results. The main generator was constructed under survey + the electrical installations tested and tried out satisfactorily. In our opinion the vessel is now eligible for notation in the Society's Register Book - L.M.C. 5.35 C.L. D.B. 100 lbs OIL ENGINES.

The amount of Entry Fee .. £ 6 : - : When applied for,

Special ... £ 141 : 1/6 : 16th May 1935

Donkey Boiler Fee ... £ 4 : 16 : When received,

AIR RESERVOIRS 30.5 35 31/5

Travelling Expenses (if any) £ 7 : 7 : 31/5

Committee's Minute

FRI. 24 MAY 1935

Assigned

+ LMC 5.35 Oil Engines  
DB-100 lbs

R Lee Aimee & Charles J Hunter  
Engineer Surveyor to Lloyd's Register of Shipping.



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