

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 8 NOV 1929

Date of writing Report 5th Nov 1929 When handed in at Local Office 6th Nov 1929 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 4th Feb 29 Last Survey 4th Nov 1929
 Reg. Book. on the S.S. "RAJAHISTAN" (Number of Visits 68) Gross 6390.59
 Built at Sunderland By whom built Bartram & Sons Ltd Yard No. 267 Tons Net 3878.45
 Engines made at Sunderland By whom made J. Dickinson & Sons Ltd Engine No. 900 When built 1929
 Boilers made at Sunderland By whom made J. Dickinson & Sons Ltd Boiler No. 900 when made 1929
 Registered Horse Power Owners Hindustan Steam Shipping Co. Ltd. Port belonging to Newcastle-on-Tyne
 Nom. Horse Power as per Rule 442 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes
 Trade for which Vessel is intended General Cargo

ENGINES, &c.—Description of Engines Double Compound - Lentz Type - Single Screw Revs. per minute 70
 Dia. of Cylinders 22" 4 1/4" Length of Stroke 47 1/4" No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals as per Rule 13 7/8" as fitted 14 1/4" Crank pin dia. 14 1/4" Mid. length breadth ✓ Thickness parallel to axis 9"
 Intermediate Shafts, diameter as per Rule 13 06" as fitted 13 5/8" Crank webs Mid. length thickness ✓ Thickness around eye-hole 6 1/4"
 Tube Shafts, diameter as per Rule ✓ as fitted ✓ Thrust shaft, diameter at collars as per Rule 13 7/8" as fitted 14 1/4"
 Screw Shaft, diameter as per Rule 15 1/2" as fitted 15 1/2" Is the ✓ shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 28 1/2" as fitted 28 1/2" Thickness between bushes as per Rule ✓ 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 Length of Bearing in Stern Bush next to and supporting propeller 5'-3" Total Developed Surface 102 sq. feet
 Propeller, dia. 18'-0" Pitch 16'-0" No. of Blades 4 Material Cast Iron whether Movable no Can one be overhauled while the other is at work Yes
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 2 @ 9 1/2" x 7" x 21" Pumps connected to the { No. and size 1 @ 9" x 11" x 10"
 How driven Steam Main Bilge Line How driven Steam
 Ballast Pumps, No. and size 1 @ 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size ✓
 Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 3 @ 3" DIAM
 In Holds, &c. No 1 Hold:- 2 @ 3" DIAM. No 2 Hold:- 2 @ 3" DIAM. No 3 & 4 Holds:- 2 @ 3" DIAM.
No 5 Hold:- 2 @ 3" DIAM. No 6 Hold:- 2 @ 3" DIAM. TUNNEL WELL:- 1 @ 3" DIAM.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 8" DIAM. Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 @ 5" DIAM. Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes
 Are the Bilge Suctions in the Machinery Space 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 Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line Above
 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 ✓ 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 Yes
 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 E.R. Top Grating

MAIN BOILERS, &c.—(Letter for record (S) ✓) Total Heating Surface of Boilers 6130 sq. ft.
 Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended Vertical Type Working Pressure 220 lbs.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes

PLANS. Are approved plans forwarded herewith for Shafting ✓ Main Boilers Yes Auxiliary Boilers ✓ Donkey Boilers Yes
 Superheaters Yes General Pumping Arrangements Yes (with ship report) Oil fuel Burning Piping Arrangements ✓

SPARE GEAR. State the articles supplied:— 1- C.I. Propeller: 1- Screw Shaft: 1 Set of Coupling Bolts & nuts:
 2- Main Bearing Bolts & nuts: 2- Top End Bolt & nuts: 2- Bottom End Bolt & nuts: 12- Link Ring Bolt & nuts:
 100- Assorted Bolt & nuts: 12- Cylinder Cover Studs: 2- Eccentric Strap Studs: 12- Condenser Tubes:
 1 Cwt. of Iron Bar: 1 Cwt. of Steel Plate: 1- Circulating Pump shaft and Impeller: 1 Set of Feed Pump Valves:
 1 Set of Bilge Pump Valves: 1 Set of Air Pump Valves: 1- Air Pump rod: 2- H.P. Valves: 2- L.P. Valves:
 2- Inter. Valves: 4- Valve Spindles (complete): 4- Spring Stems: 4- Valve Springs: 4- Equalizer Springs:
 1- Equalizer: 2- Feed Check Valve Lids & Seats: 1 Complete Set of firebars for one boiler, and 12- Boiler
 Smoke Tubes.

The foregoing is a correct description,

for John Dickinson & Sons, Limited,

Manufacturer.

Director.



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Lloyd's Register
Foundation

009702-009710-0248

1929. Feb. 4. Mar. 11. 25. Apr. 4. 5. 8. 19. 30. May. 21. 24. 28. June 6. 7. 12. 13. 17. 20. 24. 28. July 1. 4. 5. 9. 12. 18. 19. 22. 23. 25. Aug. 8. 13. 15. 19. 20. 21. 22. 23. 24. 27. 30. Sep. 3. 4. 5. 6. 12. 16. 17. 19. 23. 25. 30. Oct. 1. 2. 3. 7. 8. 9. 11. 14. 16. 17. 21. 22. 23. 24. 25. 28. 30. Nov. 4.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - - -
 Total No. of visits 68

Dates of Examination of principal parts—Cylinders 3.9.29 VALVES 22.8.29 Covers 4.9.29
 Pistons 30.8.29 Piston Rods 13.8.29 Connecting rods 12.7.29
 Crank shaft 19.8.29 Thrust shaft 5.7.29 Intermediate shafts 1.10.29
 Tube shaft ✓ Screw shaft WORKING:- 3.10.29 SPARE:- 1/10.29 Propeller 23.9.29
 Stern tube 1.10.29 Engine and boiler seatings 30.9.29 Engines holding down bolts 23.10.29
 Completion of fitting sea connections 16.9.29
 Completion of pumping arrangements 30.10.29 Boilers fixed 17.10.29 Engines tried under steam 30.10.29
 Main boiler safety valves adjusted 25.10.29 Thickness of adjusting washers PORT BLR STAR 1/32" STAR BLR STAR 1/32" SHEET 3/32" SHEET 1/8" 3/32"
 Crank shaft material Siemens Steel Identification Mark No 1598 A.C. Thrust shaft material Siemens Steel Identification Mark No 1819 A.C.
 Intermediate shafts, material Siemens Steel Identification Marks Please See Below Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Siemens Steel Identification Mark WORKING:- No 2417 A.C. SPARE:- No 2197 A.C. Steam Pipes, material Solid Drawn Steel Test pressure 660 lbs. □ Date of Test 21.10.29
 Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for carrying and burning oil fuel 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. The Engines and Boilers have been built under Special Survey & satisfactorily fitted in the Vessel. The Materials and Workmanship are good. On Completion the Machinery was tried under a full head of Steam with Satisfactory results.
 The Machinery throughout is now in a good & efficient Condition & eligible in my opinion for Classification & the notation :- L.M.C. 11.29.

IDENTIFICATION MARKS OF INTERMEDIATE SHAFTS :- No 1:- 1760 A.C. No 2:- 1766 A.C. No 3:- 1841 A.C.
 No 4:- 1847 A.C. No 5:- 1841 A.C. No 6:- 1853 A.C. No 7:- 1800 A.C.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.29.

C4cy (2) 22 + (2) 47 1/4 - 47 1/4.
 CL. F.D.
 J. D.A. 11/11/29.

The amount of Entry Fee ... £ 5 : 0 : ✓ When applied for, 6 NOV. 1929
 Special ... £ 91 : 6 : 19
 Donkey Boiler Fee ... £ 7 : 2 : When received, 8.11.29
 Travelling Expenses (if any) £ : :
 Assigned + LMC 11.29 F.D. CL