

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

15 JUL 1931

Date of writing Report 13th July 1931 When handed in at Local Office 13th July 1931 Port of Belfast
 No. in Survey held at Belfast Date, First Survey Sept. 10th 1930 Last Survey 8th July 1931
 Reg. Book. 91202. on the Steel Twin Sc. "KOSMOS II." (Number of Visits 90)
 Built at Belfast By whom built Workman, Clark (1928) Ltd. Yard No. 522. When built 1931.
 Engines made at Belfast By whom made Workman, Clark (1928) Ltd. Engine No. 522. When made 1931.
 Boilers made at Belfast By whom made Workman, Clark (1928) Ltd. Boiler No. 522. When made 1931.
 Registered Horse Power _____ Owners Hvalfangerselsk "Kosmos II" A/S (A. Jahnk). Port belonging to Sandefjord.
 Nom. Horse Power as per Rule 938. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
 Trade for which Vessel is intended Ocean going.

ENGINES, &c.—Description of Engines Quadruple expansion steam reciprocating. Revs. per minute _____
 Dia. of Cylinders 20", 29", 41 1/2", 60". Length of Stroke 45". No. of Cylinders 4. No. of Cranks 4.
 Crank shaft, dia. of journals as per Rule 12.86". Crank pin dia. 13 1/4". Crank webs Mid. length breadth 19 3/8". Thickness parallel to axis 8 3/8".
 as fitted 13 1/4". Mid. length thickness 8 3/8". Thickness around eye-hole 5 3/8".
 Intermediate Shafts, diameter as per Rule 11.96". Thrust shaft, diameter at collars as per Rule 12.56".
 as fitted 12 1/2". as fitted 13 1/4".
 Tube Shafts, diameter as per Rule _____ Screw Shaft, diameter as per Rule 13 3/8". Is the screw shaft fitted with a continuous liner Yes.
 as fitted _____ as fitted 13 3/8".
 Bronze Liners, thickness in way of bushes as per Rule .702". Thickness between bushes as per Rule .526". Is the after end of the liner made watertight in the propeller boss Yes.
 as fitted .52". as fitted .9".
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes.
 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 Yes.
 If two liners are fitted, is the shaft lapped or protected between the liners Yes. 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 5' 6"
 Propeller, dia. 15'-0" Pitch 13'-9" No. of Blades 4. Material Nickel Steel. Whether Moveable Solid Total Developed Surface 80 sq. feet
 Feed Pumps worked from the Main Engines, No. None. Diameter _____ Stroke _____ Can one be overhauled while the other is at work _____
 Bilge Pumps worked from the Main Engines, No. _____ Diameter _____ Stroke _____ Can one be overhauled while the other is at work _____
 Feed Pumps { No. and size 3 @ 11x15 1/2 x 24" / 10 7/2 x 5 1/2 x 15" Pumps connected to the { No. and size 1 @ 13 1/2 x 16 1/2 x 26" / 1 @ 10 x 12 x 18"
 How driven Steam Main Bilge Line { How driven Steam X 10 hours 100 hours
 Ballast Pumps, No. and size 13 1/2 x 16 1/2 x 26" Lubricating Oil Pumps, including Spare Pump, No. and size None.
 Are two independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 4" bore / 1 @ 6" bore / 1 @ 9" bore 2 @ 2 1/2" Boiler Room
 In Pump Room Yes. In Holds, &c. Yes.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 2 @ 8" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6" / 1 @ 9"
 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 Yes.
 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 2-3" Cofferdam suction. How are they protected not protected. (oil fuel).
 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 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 Yes.

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 14380 sq. ft.
 Is Forced Draft fitted Yes. No. and Description of Boilers 5 S.E. Multi. Working Pressure 250 lbs. 0"
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? Yes.
 Is the donkey boiler intended to be used for domestic purposes only Yes.
PLANS. Are approved plans forwarded herewith for Shafting No. Main Boilers Yes. Auxiliary Boilers Yes. Donkey Boilers Yes.
 (If not state date of approval) Superheaters Yes. General Pumping Arrangements Yes. Oil fuel Burning Piping Arrangements No.

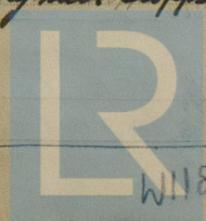
SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes.
 State the principal additional spare gear supplied 1- propeller shaft. 2- least steel propeller. 1 set ahead thrust pads. 2 crosshead bushes with nuts & bolts. 1 crankpin bush with bolts & nuts. 2 main bearing bolts & nuts. 1- piston rod with nuts. 1- piston rod guide shoe. 1 valve spindle. 1- ahead eccentric strap. 2- cylinder escape valves. 25 condenser tubes. 100 condenser ferrules. 50 plain boiler tubes. 4 feed check valves. 2 springs for safety valves. 2 cylinder escape springs. 6 studs for cylinder covers. 6 studs for valve covers. 6- junk ring pins & washers.
 For Feed Pumps:—1 shuttle valve chest complete. 2- sets valves complete. For main circulating pump:—1- propeller & spindle. 1- set piston rings. 1 piston valve. 2 bottom halves main bearing brasses with bolts & nuts. & crankpin bush with bolts & nuts. 1- crosshead bush with bolts & nuts. 1- valve spindle with nuts. 1- piston rod with nut & piston with rings.
 For Superheater 12 handhole covers. 1 gross handhole cover joints. 1 set emergency tube stopper.

The foregoing is a correct description,
 pro WORKMAN CLARK (1928) LIMITED,

J. Cunningham
 Secretary.

Manufacturer.



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Lloyd's Register Foundation

W1189-0036

NOTE.—The records which do not apply should be deleted. If not, state whether, and when, one will be sent.

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Dates of Survey while building
 During progress of work in shops -- 1930. Sept. 10. Oct. 10. 15. 19. 27. 31. Nov. 10. 12. 14. 17. 19. 26. 27. Dec. 1. 5. 6. 8. 9. 11. 12. 13. 15. 16. 18. 22. 27. 28
 1931. Feb. 2. 3. 4. 5. 7. 10. 13. 16. 18. 19. 23. 24. 26. Mar. 2. 3. 4. 5. 9. 10. 11. 13. 17. 18. 19. 25. 26. 27. 30. Apr. 1. 2. 5. 10. 13. 14. 15. 16. 17. 19. 22. 23. 27. 29. 30
 May. 4. 7. 11. 14.
 During erection on board vessel --- 1931. May 20 June 2. 3. 4. 5. 8. 9. 10. 13. 15. 19.
 July 2. 3. 8
 Total No. of visits 90

Dates of Examination of principal parts—Cylinders 11/12/30. Slides 11/12/30. Covers 11/12/30.
 Pistons 27/10/30. Piston Rods 27/10/30. Connecting rods 23/4/31.
 Crank shaft S. 27/11/31. P 4/2/31. Thrust shaft 9/2/31. Intermediate shafts 2/3/31.
 Tube shaft ✓ Screw shaft 2/2/31. 4/2/31. 26/2/31. Propellers 10/2/31. 19/2/31.
 Stern tube 19/2/31. Engine and boiler seatings 8/6/31. Engines holding down bolts 8/6/31.
 Completion of fitting sea connections 16/5/31.
 Completion of pumping arrangements 2/7/31. Boilers fixed 8/6/31. Engines tried under steam 8/7/31.
 Main boiler safety valves adjusted 19/6/31. Thickness of adjusting washers PF. P 3/8" S 3/8" SUPH 5/16" SF. P 1/2" S 3/8" SUPH 5/16"
 Crank shaft material Steel. Identification Mark S. LLOYD'S No 87. J.K.W. 27/11/31. Thrust shaft material Steel. Identification Mark CENTRE R. P 3/8" S 3/8"
 Intermediate shafts, material Steel. Identification Marks P. LLOYD'S No 88. J.K.W. 4/2/31. Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel. Identification Mark P. LLOYD'S No 33. J.K.W. 26/2/31. Steam Pipes, material S D Steel. Test pressure 75 lb sq. in. Date of Test 12/12/30. T.S.
 Is an installation fitted for burning oil fuel ✓ SP. LLOYD'S No 84. J.K.W. 2/3/31. Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for the use of oil as fuel 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. The machinery of this vessel was constructed under special survey. The materials & workmanship are sound and good. The main & auxiliary machinery has been tried out at a moored & sea trial with satisfactory results. In my opinion the vessel is eligible for notation in the Register Book + LMC 7, 31. CL. Boiler pressure 75 lb sq. in. Fitted for oil fuel FP above 150°F.

The amount of Entry Fee ... £ 6 : 0 :
 Special ... £ 121 : 18 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 20.7.19.31
 When received, 5.8.19.31

John K. Williams
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 5 AUG 1931

Assigned + L.M.C. 7.31
 Fitted for oil fuel 7.31 F.P. above 150°F.
 F.D. C.L.
 CERTIFICATE WRITTEN:



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