

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 15/5/43 19... When handed in at Local Office 15/5/43 19... Port of NEWCASTLE-ON-TYNE

No. in Survey held at Wallsend Date, First Survey 28.5.1942 Last Survey 24-3-1943
 Reg. Book (Number of Visits 51)

on the S.S. "EMPIRE FRIENDSHIP" Tons {Gross... Net...}

Built at Sunderland By whom built Short Bros Ltd. Yard No. 475 When built 1943

Engines made at Wallsend By whom made N.E. Marine Engls (1938) Ltd Engine No. 3049 When made 1943

Boilers made at " By whom made " Boiler No. 3049 When made 1943

Registered Horse Power... Owners Ministry of War Transport Port belonging to Sunderland

Nom. Horse Power as per Rule 510 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended beacon going

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute

Dia. of Cylinders 24 1/2 - 39 - 70 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 13.98 Crank pin dia. 14 3/4 Crank webs Mid. length breadth 22 Thickness parallel to axis 9
 as fitted 14 1/4 Mid. length thickness 9 Thickness around eye-hole 6 3/8

Intermediate Shafts, diameter as per Rule 13.32 Thrust shaft, diameter at collars as per Rule 13.98
 as fitted 13 5/8 as fitted 14 1/4

Tube Shafts, diameter as per Rule... Screw Shaft, diameter as per Rule 14.82 Is the tube screw shaft fitted with a continuous liner { yes }
 as fitted... as fitted 15 1/4

Bronze Liners, thickness in way of bushes as per Rule .75 Thickness between bushes as per Rule .585 Is the after end of the liner made watertight in the propeller boss yes
 as fitted 13/16 as fitted 21/32

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... no Is an approved Oil Gland or other appliance fitted at the after end of the tube... yes

Propeller, dia. 17.10 1/2 Pitch 15.6 No. of Blades 4 Material C.I. whether Moveable no Total Developed Surface 114 3/4 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work... yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work... yes

Feed Pumps { No. and size 2 7x9 1/2 x 21 1 9 1/2 x 7 x 21 Pumps connected to the Main Bilge Line { No. and size 1 10 1/2 x 13 x 24 1 9 1/2 x 7 x 21 2 4" x 27" }
 How driven Steam How driven Steam M.F.P.

Ballast Pumps, No. and size 1 10 1/2 x 13 x 24 Lubricating Oil Pumps, including Spare Pump, No. and size... yes

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 2 2 3" Eng. Rm. 2 2 3" Stokehold
 In Pump Room... In Holds, &c. 3" P+S in each hold 2 1/2" tunnel well

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 2 9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 2 5"
 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 both cond. & direct 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 for Bilge Suctions How are they protected lumber boards

What pipes pass through the deep tanks... 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... no worked from... yes

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 7248 sq. ft.

Which Boilers are fitted with Forced Draft... yes Which Boilers are fitted with Superheaters... all

No. and Description of Boilers 3SB. Working Pressure 220

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes

Can the donkey boiler be used for domestic purposes only... yes

PLANS. Are approved plans forwarded herewith for Shafting Standard B type Main Boilers 11.10.41 Auxiliary Boilers... yes Donkey Boilers... yes
 (If not state date of approval)

Superheaters Standard General Pumping Arrangements 1.10.42 Oil fuel Burning Piping Arrangements... yes

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied

The foregoing is a correct description.

THE NORTH-EASTERN MARINE ENGINEERING CO. (1938) LTD.

John Neill

Manufacturer.

DIRECTOR



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1942 MAY 28. JUNE 11. 12. JULY 2. SEPT 16. 15. 18. 29. OCT. 2. 5. 12. 13. NOV. 13. 16. 26. 27. DEC. 3. 9. 21. 23. 24
 During progress of work in shops - - -
 DEC. 28. 31.
 1943 JAN. 4. 8. 13. 25. 26. 27. FEB. 1. 9. 12. 15. 16. 17. 19. 22. 23. 24. 25. MAY. 1. 2. 4. 8. 16. 11. 15. 17. 22. 23. 24
 During erection on board vessel - - -
 Total No. of visits 51

Dates of Examination of principal parts—Cylinders 27. 11. 42 Slides 26. 1. 43 Covers 27. 11. 42
 Pistons 26. 1. 43 Piston Rods 26. 1. 43 Connecting rods 26. 1. 43
 Crank shaft 9. 12. 42 Thrust shaft 9. 12. 42 Intermediate shafts 26. 11. 42 9. 12. 42
 Tube shaft ✓ Screw shaft 26. 1. 43 Propeller 26. 1. 43
 Stern tube 8. 1. 43 1. 2. 43 Engine and boiler seatings 10. 3. 43 Engines holding down bolts 10. 3. 43
 Completion of fitting sea connections 18. 2. 43

Completion of pumping arrangements Boilers fixed 10. 3. 43 Engines tried under steam 24/25/26/27
 Main boiler safety valves adjusted 24. 3. 43 Thickness of adjusting washers P 5 1/32 spl 3/16 C 3 7/16 S 3 1/32 spl 7/32 833-805A T.T.
 Crank shaft material Steel Identification Mark 8067 8897 8188 ERB Rel 9. 12. 42 Thrust shaft material Steel Identification Mark 893. 1003. 876-889-859-868 TT Rel 9. 12. 42
 Intermediate shafts, material " Identification Marks Rel 26. 11. 42 9. 12. 42 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel Identification Mark 888 T.T. Rel 27. 10. 42 Steam Pipes, material Steel Test pressure 660 lbs Date of Test
 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 the use of oil as fuel been complied with ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo NO 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 NO
 Is this machinery duplicate of a previous case yls If so, state name of vessel "Empire Energy"

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery has been constructed & installed under Special Survey in accordance with the Requirements of the Rules, the Approved Plans & the Specification. The materials & workmanship are good & the machinery proved satisfactory under working conditions at the quay.
 The machinery is eligible in my opinion to have the Record + LMC 5-43. 38B Spl FD CL

NEWCASTLE-ON-TYNE

Certificate to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £	6 : 00 :	When applied for,
Special +25% ... £	125 : 12.6 :	
Donkey Boiler Fee ... £	:	When received,
Travelling Expenses (if any) £	:	

Re Moffitt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 25 MAY 1943
 Assigned + LMC 5.43
 FO CL



LLOYD'S REGISTER OF SHIPPING (INCORPORATED IN ENGLAND)