

Rpt. 4

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8 JUL 1957

110 JUL 1957

Date of writing report 29.6.57.

Received London

Port NEWCASTLE UPON TYNE. No. 114465

Survey held at South Shields.

No. of visits In shops On vessel

First date 27.10.56. Last date 28.6.57.

FIRST ENTRY REPORT ON STEAM RECIPROCATING MACHINERY

No. in R.B. 62057 Name ESSO WANDSWORTH Gross tons 4352

Owners Esso Petroleum Co. Ltd. Managers Esso Petroleum Co. Ltd. Port of Registry London.

Hull built at Wilkes-Barre Pa. U.S.A. By Vulcan Iron Works Yard No. Hull 17. When 1943.

Main Engines made at Wilkes-Barre Pa. U.S.A. By Vulcan Iron Works Eng. No. P.31, S.32. When 1943.

Boilers made at Ferrysburg Michigan. By Johnston Bros. Blr. Nos. P.489, S.488. When 1943.

Machinery installed at Wilkes-Barre By Vulcan Iron Works. When 1943.

Particulars of restricted service of ship, if limited for classification -

Is ship to be classed for navigation in ice? No. Particulars of vegetable or similar cargo oil notation, if required -

Is ship intended to carry petroleum in bulk? Yes.

Is refrigerating machinery fitted? Yes. If so, is it for cargo purposes? No. Type of refrigerant Ammonia.

Is the refrigerating machinery compartment isolated from the propelling machinery space? Yes. Is the refrigerated cargo installation intended to be classed? -

The following particulars should be given as fully and as clearly as possible. Dashes, ticks and other signs of doubtful meaning are not to be used. Wording not applicable to the installation may be cancelled with a black line.

BOILERS AND OTHER STEAM PRESSURE VESSELS.

No. of main boilers Two Type and licence name, if any Scotch Multitubular (3 Face). Position Forward End of Engine Room.

Saturated safety valve pressure 180 lbs.in². Steam temperature if superheated - Superheater safety valve pressure -

Natural or forced draught Forced Fuel Oil Report on main boilers (Port and No.) Newcastle herewith.

No. of aux./donkey boilers None fitted Type - W.P. - Position -

No. of steam heated steam generators None fitted W.P. - No. of evaporators one W.P. 25 lbs.in².

Report on aux./donkey boilers or steam generators (Port and No.) -

If the boilers are oil fired, is the arrangement of pipes, valves and controls in accordance with the Rules? Yes.

No. and position of oil burning pressure units One Duplex Unit at Starboard Side of Engine Room.

No. and position of oil fuel settling or service tanks not forming part of hull structure None.

No. of forced draught fans and fan engines One Fan Two Engines.

MAIN ENGINES (If the main engines have been constructed at another Port and are covered by a separate report, the particulars given in that report need not be repeated below, but the Port and Report No. should be stated)

Description and licence name, if any Triple Expansion Reciprocating.

No. of main engines Two No. of screws Two Max. total I.H.P. 2,000 with 73.73 per cent. H.P. cut off at 135 R.P.M.

No. of cylinders per engine Three Dia. of cylinders (in sequence from fwd to aft) 16" x 26" x 43" Stroke 27"

Machinery numeral 360 Type of valves H.P. Piston M.P. & L.P. Double Ported, Balanced Slide Valve. Type of valve gear Stephenson.

If engine is of enclosed forced lubricated type state crankcase volume - No. and total area of explosion relief devices fitted? -

Which cylinders operate on Uniflow principle? None Is a steam reheater fitted? No Is a governor fitted? Yes

Are the main engine frames or bedplate of welded construction? No Is the main engine secured directly to the tank top

or to a built-up seating? Secured Direct to Tank Top.

Is an exhaust steam turbine fitted? No S.H.P. of turbine - R.P.M. - Description of turbine and

drive -

SHAFTING

Working pressure for which shafting has been approved 180 lbs. in². Date of approval of torsional vibration characteristics of the propelling machinery system, if

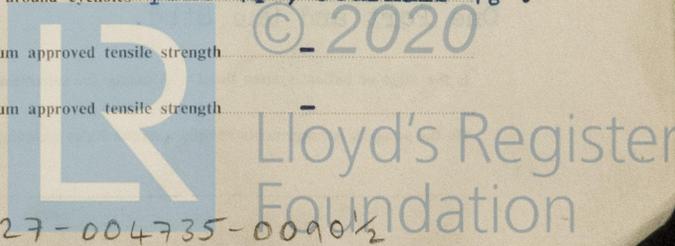
required - State barred speed range, if imposed -

CRANK SHAFT type—Built, ~~with~~ Dia. of journals 8 3/8" Dia. of pins 8 3/8"

Breadth of webs at mid length 17 3/8" Thickness 5 1/4" If shrunk, thickness around eyeholes pins 4 1/2", Journals 4 5/8".

Are dowel pins fitted? Yes Crank shaft material O.H. Forged Steel (Stated) Minimum approved tensile strength -

THRUST SHAFT Dia. at collar(s) 8 1/2" Material O.H. Forged Steel (Stated) Minimum approved tensile strength -



INTERMEDIATE SHAFT. Dia. $\checkmark 7\frac{7}{8}$ " Material O.H. Forged Steel Minimum approved tensile strength -
 SCREW SHAFT. Dia. of cone at large end $\checkmark 9\frac{3}{16}$ " Is screwshaft fitted with a continuous liner? Yes.
 TUBE SHAFT. Dia. (if these are separate shafts) - Is tube shaft fitted with a continuous liner in way of stern tube? -
 Thickness of screw/tube shaft liner at bearings $\frac{5}{8}$ " Thickness between bearings -
 Is an approved oil gland fitted? Yes If so, state type Newark Oil Gland.
 Length of bearing next to and supporting propeller $\checkmark 43\frac{3}{4}$ " Material of bearing A.B.K. Compound.
 In multiple screw vessels is the liner ~~continuous~~ continuous? Yes If not, is the exposed length of shafting between liners readily visible in drydock? -

Material of screw/tube shaft O.H. Forged Steel. Minimum approved tensile strength -
 PROPELLER
 Dia. of propeller $\checkmark 10' 6"$ Pitch 9' 6" Built-up or solid? Solid Total developed surface - No. of blades Four
 Blade thickness at top of root fillet $\checkmark 7\frac{1}{2}$ " Blade material Bronze Moment of inertia of dry propeller, if known -
 If propeller is of special design, state type -
 Is propeller of reversible pitch type? No If so, is it of approved design? - State method of control -
 Material of spare propeller None carried Moment of inertia of spare propeller, if known -

MAIN ENGINE DRIVEN PUMPS. (State No. of each and give capacity of bilge pumps at normal revolutions)
 1 Each, Port & Stbd. Edwards CIRCULATING - FEED - LUB. OIL - Two 2 $\frac{3}{4}$ " dia. x 1 BILGE on Port Engine.
 Type 15" diam. 13"

INDEPENDENT PUMPS

Name below each essential pump and state its position. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X													
	SUCTION						DELIVERY							
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel Main	Condr. Extr.	Sea	Feed Tanks	Oily Bilge	Boiler Feed	Main Condr. Coolg.	Oil Fuel Burners	Oil Fuel Tanks	Fire Main	O.W. Separator.
Ballst (Port Outer)	X	X	X			X				X				X
General Service (Port Inner)	X				X	X	X		X					X
Port & Stbd. Boiler Feed					X		X		X					
Fuel Oil Transfer (Stbd.)				X				X		X	X			X
2 Fuel Unit Pumps (Stbd.)				X				X		X	X			X
Port & Stbd. S.W. Circulating		X				X			X					
Sanitary (Port)						X								X

Interlocking. Each valve prevents the other being pumped into bilge.

If the main engine is of forced lubricated type state No. of lubricating oil pumps, including spare pump and No. of oil coolers -

BILGE SUCTIONS

No. and size in each ~~compartment~~ or pump room One 4" in Forward Pump Room.
 No. and size connected to main bilge line in main engine room Three 3" In aux. engine room -
 In boiler room - In tunnel -
 Size and position of direct bilge suction in machinery spaces One 4" Ballast Pump Suct. Port.
 Size and position of emergency bilge suction in machinery spaces Two 6" Suctions. One Port and One Stbd.
 In coal burning ships is a flexible bilge hose and connection provided? -
 Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? Yes
 Do the pumping arrangements comply with the Rules including special requirements for ships carrying petroleum in bulk, cargo oil ~~...~~ (Strike out words not applicable) Yes.

STEAM PIPES
 Material of main steam pipes Steel Ext. dia. $\checkmark 5\frac{5}{8}$ " Thickness $\checkmark 5/16$ " How are flanges attached? Welded Material of valves and fittings for superheated steam -
 Are any aux. steam pipes for essential services over 3' bore? Yes. If so, what is the material? Copper
 Are any saturated steam pipes fitted in the smoke boxes of cylindrical boilers? No
 Hydraulic test pressure on steam pipes—main 360 lbs. in². aux. 360 lbs. in².

FEED SYSTEM

Are all boilers provided with two separate means of feed? Yes. No. of pressure type feed heaters One
 No. of direct contact type feed heaters - No. of feed filters—Suction One Pressure One
 No. of condensers—main Two Aux. - Is feed system of closed type? No No. of air ejectors -
 Cooling surface of main condensers 1,600 sq. ft. each. Material of condenser tubes Admiralty Bronze (Stated).

ELECTRIC GENERATOR ENGINES

Position of each	Prime Mover	Made by	Port and No. of Rpt. or Cert.	Output in kW.	Volts	Amps.
Aft end of E.R. Port	Steam	B.F. Sturtavant.		10	110	90
" " " " Centre.	Steam	Troy Eng. & Mfg. Co. Ltd.		15	110	125
" " " " Stbd.	Steam	B.F. Sturtavant.		10	110	90

Is electric current used for essential services at sea? No If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea -

STEERING GEAR (State type and No. of steam engines, electric motors, hydraulic pumps and other particulars) 2 Cylinder Vertical Steam Engine made by Messrs. Vulcan Iron Works No. 2132. The Telemotor is by Ledgerwood Meg. Co. N.J.

AIR COMPRESSORS AND RECEIVERS FOR ESSENTIAL SERVICES (State purpose, capacity, prime mover, position in ship and Port and No. of certificate)

Have the Rule Requirements for fire extinguishing arrangements been complied with? Yes Brief description of arrangements Steam Smothering Under furnace Fronts and O.F. Unit. CO₂ Smothering Thro' Fixed Piping. 10/ cub. ft. sand box. 2 - 50 lb. Bottles CO₂ with 50' Hose. Fire Hydrants (1 port and 1 Stbd.) with 40' canvas hoses and spray/jet nozzles. 6 - 2 gall. and 1 - 10 gall. Foam Extinguishers. 1 Independent Diesel Fire Pump, in Forward Stern Flat.

Has the spare gear required by the Rules been supplied? Yes. Has all the machinery been tried under full working conditions and found satisfactory? Yes.
 Date and duration of full-power sea trials of main engines 28.6.57. 8 hours.

Does this machinery installation contain any features of a novel or experimental nature? (State particulars) No.

Is the installation a duplicate of a previous case? Yes If so, state name of vessel Esso Fulham

Date of approval of plans for main boilers 13.11.56. Aux. boilers - Donkey boilers -
 Shafting 7.10.55. Pumping arrangements 12.10.56. Oil fuel burning arrangements 12.10.56.
 Separate oil fuel tanks - Boiler feed system 12.10.56.

The foregoing description of the main engine and installation is correct and the particulars are as approved ~~...~~ (Strike out words not applicable).



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

These Engines were built under American Bureau Survey. They have now been Examined throughout, Sizes verified, tried under working conditions and proved satisfactory.

The Engines are in our opinion eligible for Classification.

For record purposes please see the Attached Report 9.

ORoss

R.H. Banks

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

Piston	RODS	Port Eng.	H.P. Ser. 14805	"H.T. 51407	"H.T. 52096	Stbd. Eng.	H.P. Ser. 13701-1	"H.T. 32096	"H.T. 32095	"HT. 32096
Connecting	"	"	"HT 22001	"H.T. 22001	"H.T. 22001	"	"	"H.T. 22001	"HT. 22001	"H.T. 22001
Valve	"	"	H.P. Ser. 15636	"M.P. Ser. 15636	L.P. Ser. 15652	"	"	H.P. Ser. 15636	M.P. Ser. 15636	L.P. Ser. 13835
	"	"	"H.T. 21301	"H.T. 22089	"H.T. 22089	"	"	"H.T. 22089	"H.T. 22089	"H.T. 22089
	"	"	M.P. Ser. 15677	L.P. Ser. 15338	L.P. Ser. 15338	"	"	H.P. Ser. 15245	L.P. Ser. 15338	L.P. Ser. 15338

CRANK SHAFT Port "CFCO 44200 5582 AB. 22. MEF. 6/14/43" STBD. "CFCO HT. 32550. SER. 1483. 3 AB. 22. MEF. 1/18/43"

Port Crankpins.	H.P. 2351	AB. 22	MP. 2351	LP. 2351
Stbd. "	H.P. Ser. 2351.	M.P. 2351	MEF. 317.	L.P. Ser. 2351.

Port THRUST SHAFT CFCO HT 11-3124-3. SER. 118. AB. MEF. 11-30-42. JEDDO.

Stbd. Thrust ~~XXXXXXXX~~ SHAFT AE. 62 JSG. 9/9/43. CFCO HT-11-3124-3. SER. 87-14. AB. MEF. 11-23-42 JEDDO.

Port Screw Shaft CFCO. HT-38- -4 SER 15011-4 AB MEF 10-13-42. JEDDO No. - 1.

STBD. SCREW ~~XXXXXXXX~~ SHAFT CFLO HT - 310402. SER. 15012 - 4 AB MEF. 10-13-42 JEDDO No. - 2.

PORT PROPELLERS A 14 B 5089 9-14-43 H # 339 L.H. HULL # 18 D 10' 6" P 9' 6".

STBD. ~~XXXXXXXXXXXXXXXXXXXX~~ A 14 B 5095 9-14-43 H # 338 R.H. HULL # 18 D 10' 6" P 9' 6"

Dates of examination of principal parts:—

Fitting of stern tube — Fitting of propeller — Completion of sea connections — Alignment of crank shaft in main bearings 1/11/56.

Engine chocks & bolts 11/2/57. Alignment of straight shafting 14/12/56. Testing of pumping arrangements 27/6/57.

Oil fuel lines 27/6/57. Boiler supports 26/6/57. Steering machinery 12/11/56 Windlass 17/12/56.

Date of Committee FRIDAY 9 AUG 1957

Decision See Rpt. 8 Special Survey Fee See Report 9

Expenses



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