

REPORT ON STEAM TURBINE MACHINERY.

Received at London Office SAT. 13 FEB. 1923

Date of writing Report 19 When handed in at Local Office 2/2/23 Port of Newcastle-on-Tyne
 No. in Survey held at 11 Date, First Survey 11 August/21 Last Survey 2nd February 1923
 Reg. Book. on the S.S. "BRITISH CAPTAIN" (Number of Visits 107)
 Tons { Gross
 Net
 Built at Newcastle By whom built Palmer & Co. Ltd. Yard No. 933 When built 1923
 Engines made at Newcastle By whom made Palmer & Co. Ltd. Engine No. 933 When made 1923
 Boilers made at Newcastle By whom made Palmer & Co. Ltd. Boiler No. 933 When made 1923
 Shaft Horse Power at Full Power 3200 Owners British Tankers Ltd. Port belonging to London.
 Nom. Horse Power as per Rule 654 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

STEAM TURBINE ENGINES, &c.—Description of Engines 2 Steam turbines 1 Red. No. of Turbines Ahead 2
 Astern 2
 Direct coupled, single or double reduction geared to one propelling shaft. No. of primary pinions to each set of reduction gearing 2, direct coupled to phase
 periods per second, Alternating Current Generator rated Kilowatts Volts at revolutions per minute; for supplying power for driving
 Propelling Motors. Propelling Motors, Type
 rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

PARTICULARS OF TURBINE BLADING.

	H.P.			H.P. ASTERN.			L.P.			L.P. ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1st Expansion	8", 14", 19"	28", 32", 36"	14, 12, 8	Impulse	16", 14", 12"	9, 30	2"	30"	4	1st stage	4", 8", 12"	10, 2, 10
2nd	14"	17"	6	16", 14", 12"	24", 28", 32"	16, 20, 24	2 1/2"	31 1/2"	4	1st stage	16", 24", 28"	4, 8, 12
3rd	14"	18 1/2"	6				3 3/4"	32 1/2"	4	2nd stage	14"	33"
4th	18"	19 1/2"	5				2 3/4"	42 1/2"	2	1st stage	14"	34"
5th	2"	20"	5				3 1/2"	44 1/2"	2	2nd stage	2 1/2"	35 1/2"
6th	2 1/2"	21 1/2"	5				3 5/8"	45 1/2"	1	2nd stage	2 1/2"	35 1/2"
7th							4 3/8"	46 1/2"	1	2nd stage	2 1/2"	35 1/2"
8th							5 1/2"	48 1/2"	1			

Shaft Horse Power at each turbine 1600 Revolutions per minute, at full power, of each Turbine Shaft
 main shaft 73 Pitch Circle Diameter, 1st pinion 10.4 2nd pinion 19.8 1st reduction wheel 59.66 main wheel 122.879
 Width of Face, 1st reduction wheel 15" main wheel 37 1/2" Distance between centres of pinion and wheel faces and the centre of the adjacent bearings,
 1st pinion 14 1/8" 2nd pinion 37 1/2" 1st reduction wheel 37 1/2" main wheel 41 7/8" Flexible Pinion Shafts, diameter 1st 5" 2nd
 Pinion Shafts, diameter at bearings External 1st 4 1/2" 2nd 12" diameter at bottom of teeth of pinion 1st 4 1/2" 2nd 12" LP 9.826 18.884
 Wheel Shafts, diameter at bearings, 1st 12" main 17" diameter at wheel shroud, 1st 56" main 118 1/2" hns.
 Generator Shafts, diameter at bearings Propelling Motor Shafts, diameter at bearings
 Main Shafting, diameter of Tunnel Shafting as per rule 14 1/4" as fitted 17" diameter of Thrust Shafting as per rule 14 1/8" as fitted 17"
 diameter of Screw Shaft as per rule 16 5/8" as fitted 17" Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 joints burned 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 appliance fitted at the after end of the shaft to permit of it being efficiently
 lubricated Yes Vickers Gland Length of Stern Bush 6'-0" Diameter of Propeller 14'-15"
 Pitch of Propeller 18'-4 1/2" No. of Blades 4 State whether Moveable Yes Total Surface 104 square feet. If Single Screw, are
 arrangements made so that steam can be led direct to the L.P. Turbine, and either the H.P. or L.P. Turbine can exhaust direct to the Condenser Yes
 No. of Turbines fitted with astern wheels Two Total number of power driven Main and Auxiliary Pumps 5
 No. and size of Feed Pumps Two, 10" x 8" x 22" No. and size of Pumps connected to the Main Bilge Line 2, 7" x 12"
 How driven Bilge Pumps Driven off main gear wheel No. and size of Lubricating Oil Pumps, including
 Spare Pump 2, 10" x 8" x 15" Are two independent means arranged for circulating oil through the Oil Cooler Yes No. and size of sections
 connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 30 3/4 and in Holds, &c. 203 feet hold.
 No. and size of Main Water Circulating Pump Bilge Suctions 1, 24" No. and size of Donkey Pump Direct Suctions
 to the Engine Room Bilges 1, 26" Are all the bilge suction pipes in holds and tunnel well fitted with steam-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 connections with the sea direct on the skin of the ship Yes Are they 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 Discharge Pipes 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 are carried through the bunkers None How are they protected 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 Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 8511 ft²
 Is Forced Draft fitted Yes No. and Description of Boilers 3 S.E. Cyl. Smith Working Pressure 200 lbs.
 Visits 100

WEB-FRA
WEB-FRA
WEB-FRA
Siz
BRACKET
Web Fr
BULKH
W.T.BUL
COLLI
PARTITI
LONGITU
FLAT PL
(1) Bar Ke
GARBOARD
State act
thickness
way of D
Bottom
THKNE
CLEAR O
Do. C
DBLG. OI
Length
POOP S
SHORT I
FORECA
Upper
String
Second
String
FRAM
REVER
LOWER
Bowspr
Topmas
Riggi
Sails.

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
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Spare Gear. State the articles supplied:

In accordance with the Rules & in addition, 1 HP Pinion, 1 LP pinion, 10 oil tubes for oil cooler, 24 condenser tubes, 2 C.I. propeller blades, 1 Tail shaft.

For The foregoing is a correct description,

Palmer Shipbuilding & Iron Co., Ltd.

Manufacturer.

D. Kemp.

General Manager, Engine Works.

1921
Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits 107

Dates of Examination of principal parts
Casings 4/10/22 Rotors 25/9/22 Blading 1/11/22 Gearing 1/11/22
Wheel shaft 20/7/22 Thrust shaft 21/8/22 Tunnel shafts 20/7/22 Screw shaft 20/7/22 Propeller 21/8/22
Stern tube 21/8/22 Engine and boiler seatings 24/11/22 Engines holding down bolts 3/4/23
Completion of pumping arrangements 1/2/23 Boilers fired 25/1/23 Engines tried under steam 25/1/23
Main boiler safety valves adjusted 25/1/23 Thickness of adjusting washers PORT 7/8" ST 5/8" SUPERHEATER 5/8" IDENTIFICATION MARK ON DO. 1/13/1 N. W.C.
Material and tensile strength of Rotor shaft Ingot F. Steel 31.2 tons IDENTIFICATION MARK ON DO. 6/13/1 N. W.C.
Material and tensile strength of Flexible Pinion Shaft do 31.4 IDENTIFICATION MARK ON DO. 7898 JP
Material and tensile strength of Pinion shaft NICKEL STEEL 22.8/23.8 tons IDENTIFICATION MARK ON DO. 6/13/1 N
Material and tensile strength of 1st Reduction Wheel Shaft NICKEL STEEL 41.6/42.6 tons IDENTIFICATION MARK ON DO. 6/13/1 N
Material of Wheel shaft Ingot Steel IDENTIFICATION MARK ON DO. 6/13/1 N Material of Thrust shaft I. STEEL IDENTIFICATION MARK ON DO. 6/13/1 N
Material of Tunnel shafts I. STEEL IDENTIFICATION MARKS ON DO. 6/13/1 N Material of Screw shafts I. STEEL IDENTIFICATION MARKS ON DO. 6/13/1 N
Material of Steam Pipes S. I. STEEL Test pressure 600 lbs Date of test 4/4/22 to 19/4/22
Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of the Rules for carrying and burning oil fuel been complied with?

If so, state name of vessel

British General.

Is this machinery a duplicate of a previous case?

If so, state name of vessel

British General.

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

The main feed pump, main circulating pump & fan are electrically driven.

The machinery of this vessel has

been built under special survey. The materials & workmanship are good. On completion it was tried under full working conditions at sea with satisfactory results. The engines & boilers of this vessel are now in a good & efficient condition & eligible in my opinion to have the new L.M.C. 2-23 marked in Red in the British Register Book. Also F.O. fitted for oil fuel 2-23 F.P. above 150°F.

The amount of Entry Fee ... £ 6-0-0

When applied for,

1/21/23.

Special ... £ 107-14-0

When received,

8/22/23

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) £ :

Committee's Minute FRI. 9 FEB. 1923

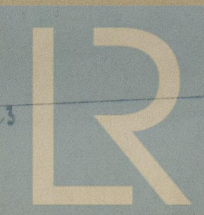
Assigned

+ L.M.C. 223. F.D. O.G.

Fitted for oil fuel 223
F.P. above 150°F.

Engine Surveyor to Lloyd's Register of Shipping.

CERTIFICATE WRITTEN 8.2.23



© 2021

Lloyd's Register Foundation