

REPORT ON STEAM TURBINE MACHINERY.

No. 57355
26 AUG 1926

Rpt. 4a.

Received at London Office

Date of writing Report

When handed in at Local Office

22.8.1936 Port of Glasgow

Date, First Survey 29.5.36

Last Survey

15-8-1926

No. in Survey held at

Reg. Book.

72706 on the Tpi. Sc. 4 Mt. "CERAMIC"

(Number of Visits 35)

Tons Gross 18713
Net 11582

Built at Belfast

By whom built Harland & Wolff Ltd.

Yard No.

When built 1913

Engines made at Belfast

By whom made Harland & Wolff Ltd.

Engine No.

When made 1913

Boilers made at Belfast

By whom made Harland & Wolff Ltd.

Boiler No.

When made 1913

Shaft Horse Power at Full Power 3000

Owners Shaw, Savill, Albion Co. Ltd.

Port belonging to Southampton

Nom. Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines Exhaust Steam Turbine

No. of Turbines Ahead 1 Direct coupled, single reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing 1
Astern None double reduction geared

direct coupled to Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;

for supplying power for driving Propelling Motors, Type rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	H. P.			I. 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							4 7/16"	9'-11 3/8"	10			
2ND							5 15/16"	10'-2 7/8"	10			
3RD							7 1/16"	10'-5 29/32"	10			
4TH							9 7/16"	10'-10 13/32"	24			
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine H.P. I.P. L.P. 220
Revolutions per minute, at full power, of each Turbine Shaft 1st reduction wheel main shaft

Rotor Shaft diameter at journals H.P. I.P. L.P. 19 1/2"
Pitch Circle Diameter 1st pinion 1st reduction wheel 2nd pinion main wheel Width of Face 1st reduction wheel main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel 2nd pinion main wheel

Flexible Pinion Shafts, diameter at bearings 1st 2nd Pinion Shafts, diameter at bearings External Internal 1st 2nd diameter at bottom of pinion teeth 1st 2nd

Wheel Shafts, diameter at bearings 1st main diameter at wheel shroud, main Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule as fitted 10 3/8" Thrust Shaft, diameter at collars as per rule as fitted None Tube Shaft, diameter as per rule as fitted None

Screw Shaft, diameter as per rule as fitted 11 1/2" Is the screw shaft fitted with a continuous liner? No. Bronze Liners, thickness in way of bushes as per rule as fitted

Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the propeller boss? No. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner? C.L. 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? No. If two liners are fitted, is the shaft lapped or protected between the liners? C.L. 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 64 1/2"

Propeller, diameter 10'-6" Pitch 7'-10" No. of Blades 3 State whether Moveable? No. Total Developed Surface 42 square feet. Can the H.P. or I.P. Turbine exhaust direct to the

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine? No. Condenser? No. No. of Turbines fitted with astern wheels? No. Feed Pumps? No. and size. How driven? Please see Report in Reciprocating Machinery.

Pumps connected to the Main Bilge Line No. and size. How driven? Lubricating Oil Pumps, including Spare Pump, No. and size 2 1/2 6x6x12 1 1/2 6x6x12

Ballast Pumps, No. and size. Are two independent means arranged for circulating water through the Oil Cooler? No. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room

In Holds, &c. Main Water Circulating Pump Direct Bilge Suctions, No. and size. Independent Power Pump Direct Suctions to the Engine Room. Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes?

Bilges, No. and size. 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? Are they fitted with Valves or Cocks?

Are all Sea Connections fitted direct on the skin of the ship? Are the Overboard Discharges above or below the deep water line? Are they fixed sufficiently high on the ship's side to be seen without lifting the ship's plates? Are the Blow Off Cocks fitted with a spigot and brass covering plate? Are they each fitted with a Discharge Valve always accessible on the platform of the vessel? How are they protected? What pipes pass through the bunkers? Have they been tested as per rule? What pipes pass through the deep tanks?

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times? 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? Is the Shaft Tunnel watertight? Is it fitted with a watertight door? worked from

W157-0078

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BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Is a Report on Main Boilers now forwarded?

Is { a Donkey } Boiler fitted?
{ an Auxiliary }

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:—

As required by the rules & as noted in Reciprocating machinery report.

The foregoing is a correct description,

Manufacturer.

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

SEE ACCOMPANYING MACHINERY REPORT.

Dates of Examination of principal parts—Casings 12, 16 June 1936. Rotors 16.6.36. Blading 16.6.36. Gearing none.

Wheel shaft 16.6.36. Thrust shaft 16.6.36. Intermediate shafts 23.6.36. Tube shaft none. Screw shaft 12.8.36.

Propeller 12.8.36. Stern tube 4.8.36. Engine and boiler seatings 12.6.36. Engine holding down bolts 12.6.36.

Completion of pumping arrangements 29.7.36. Boilers fixed ✓ Engines tried under steam 15-8-36.

Main boiler safety valves adjusted 14, 15th Aug. 1936. Thickness of adjusting washers. As given in Reciprocating Machinery Report.

Rotor shaft, Material and tensile strength Identification Mark

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength Identification Mark

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material ✓ Identification Mark ✓ Thrust shaft, Material ✓ Identification Mark ✓

Intermediate shafts, Material S Identification Marks ✓ Tube shaft, Material ✓ Identification Marks ✓

Screw shaft, Material S Identification Marks 2696 J.N.B. Steam Pipes, Material ✓ Test pressure ✓

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 carrying and burning oil fuel been complied with ✓

Is this machinery a duplicate of a previous case ✓ If so, state name of vessel ✓

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

This machinery was examined throughout & the scantlings checked against the plans forwarded with the Secretary's letter "E" 4.6.36. The machinery was later examined under working conditions.

In recommendation as to Class, please see Reciprocating machinery report.

22/8/36.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 25 AUG 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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