

REPORT ON STEAM TURBINE MACHINERY. No. 57355

Rpt. 4a.

Received at London Office.

26 AUG 1926

Date of writing Report 19 When handed in at Local Office 22.8.1926 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 29.5.26 Last Survey 15-8-1926
 Reg. Book. 72706 on the Tri. Se. 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 Yes Is Electric Light fitted Yes
 Trade for which Vessel is intended _____

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

No. of Turbines One Direct coupled, single reduction geared } to one propelling shafts. No. of primary pinions to each set of reduction gearing None
None }
 Astern None }
 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. _____ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. _____
 I.P. _____
 L.P. 220 }
 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 { 1st None ✓ } Pinion Shafts, diameter at bearings { External 1st _____ 2nd _____ } diameter at bottom of pinion teeth { 1st _____
 2nd _____ }
 Wheel Shafts, diameter at bearings { 1st _____ } diameter at wheel shroud, { 1st _____ } Generator Shaft, diameter at bearings _____
 main None } main _____ } Propelling Motor Shaft, diameter at bearings _____
 Intermediate Shafts, diameter as per rule _____ Thrust Shaft, diameter at collars as per rule _____ Tube Shaft, diameter as per rule _____
 as fitted 10 3/8" } as fitted None } as fitted None }
 Screw Shaft, diameter as per rule _____ Is the _____ shaft fitted with a continuous liner { Yes } Bronze Liners, thickness in way of bushes as per rule _____
 as fitted 11 1/2" } screw } as fitted _____ }
 Thickness between bushes as per rule _____ 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 junctions _____
 as fitted _____ }
 made by fusion through the whole thickness of the liner CL } 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 CL } 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 648" ✓
 Propeller, diameter 10'-6" Pitch 7'-10" No. of Blades 3 State whether Moveable No } Total Developed Surface 42 square feet.
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine _____ } Can the H.P. or I.P. Turbine exhaust direct to the _____

Condenser ✓ No. of Turbines fitted with astern wheels _____ 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 _____ }
 Ballast Pumps, No. and size _____ Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 6'6" x 12" 1 off 6'2" x 6'2" x 12" ✓
 Are two independent means arranged for circulating water through the Oil Cooler Yes } Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room _____
 In Holds, &c. _____ Independent Power Pump Direct Suctions to the Engine Room _____
 Main Water Circulating Pump Direct Bilge Suctions, No. and size _____ 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 all Sea Connections fitted direct on the skin of the ship _____ Are they fitted with Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the ship's plates _____ Are the Overboard Discharges above or below the deep water line _____
 Are they each fitted with a Discharge Valve always accessible on the platform of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____
 What pipes pass through the bunkers _____ How are they protected _____
 What pipes pass through the deep tanks _____ Have they been tested as per rule _____
 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 _____

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)

Reciprocating machinery report.
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^N, 15^R 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.

For 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.....

J. D. Scott

Engineer Surveyor to Lloyd's Register of Shipping.

CD

Committee's Minute GLASGOW 25 AUG 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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