

REPORT ON STEAM TURBINE MACHINERY. No. 86308

4a.

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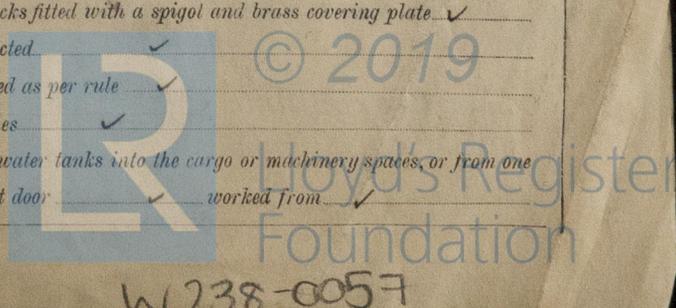
of writing Report Wallsend When handed in at Local Office 8/10/30 Port of NEWCASTLE-ON-TYNE
 in Survey held at Wallsend Date, First Survey 21 Nov 129 Last Survey 2 Oct 1930
 Book. Low Pressure Geared Turbine for the City of Hankow. (Number of Visits 59)
 on the W. Hartlepool Tons } Gross 4369
 at do } Net 4165
 By whom built W. Gray & Co Ltd Yard No. When built 1915-6
 By whom made Central Marine Eng Works Engine No. When made do
 By whom made ditto Boiler No. When made do
 Owners Montgomery & Turkman (1920) Ltd Port belonging to Liverpool
 Horse Power at Full Power 4650 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Horse Power as per Rule 211 Vessel is intended for General Cargo

AM TURBINE ENGINES, &c.—Description of Engines

1 Turbine with D.R. gearing & hydraulic clutch.
 of Turbines Ahead one Direct coupled, single reduction geared } to one propelling shafts. No. of primary pinions to each set of reduction gearing one
 Astern double reduction geared
 coupled to Alternating Current Generator phase ✓ periods per second ✓ rated Kilowatts Volts at revolutions per minute;
 applying power for driving Propelling Motors, Type
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	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.
EXPANSION							98	1004	1			
"							119	1088	1			
"							140	1130	1			
"							161	1178	1			
"							191	1238	1			
"							220	1290	1			

Horse Power at each turbine { H.P. I.P. L.P. 1265 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. 3130 L.P. 3130 }
 Shaft diameter at journals { H.P. I.P. 170 mm L.P. 170 mm } Pitch Circle Diameter { 1st pinion 238.9x6 mm 1st reduction wheel 1824.687 mm main wheel 2307.574 mm } Width of Face { 1st reduction wheel 310 mm main wheel 685 mm }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 330 mm 1st reduction wheel 540 F main wheel 600 mm }
 Pinion diameter { 1st 110 mm 2nd ✓ } Pinion Shafts, diameter at bearings External 1st 140 mm 2nd 365 mm Internal 140 mm } diameter at bottom of pinion teeth { 1st 224.34 mm 2nd 419.609 mm }
 Main Shafts, diameter at bearings { 1st 300 mm } diameter at wheel shroud, { 1st 1752 mm } Generator Shaft, diameter at bearings ✓
 Intermediate Shafts, diameter as per rule same as fitted approved } Thrust Shaft, diameter at collars as per rule 475 mm as fitted 475 mm } Propelling Motor Shaft, diameter at bearings ✓
 Propeller Shaft, diameter as per rule ✓ Is the tube shaft fitted with a continuous liner ✓ } Bronze Liners, thickness in way of bushes as per rule ✓ as fitted ✓
 Is the after end of the liner made watertight in the propeller boss ✓ If the liner is in more than one length are the junctions by fusion through the whole thickness of the liner ✓ If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a material insoluble in water and non-corrosive ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or appliance fitted at the after end of the tube shaft ✓
 Propeller, diameter 19'-0" Pitch 16'-0" No. of Blades 4 State whether Moveable yes Total Developed Surface 126 square feet.
 Can the H.P. or I.P. Turbine exhaust direct to the sea ✓
 No. of Turbines fitted with astern wheels ✓ Feed Pumps { No. and size no change How driven ✓ }
 Is connected to the Main Bilge Line { No. and size no change How driven ✓ }
 Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 9x8x18
 Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room ✓
 Bilge Suctions, No. and size same Independent Power Pump Direct Suctions to the Engine Room ✓
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓
 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 ✓
 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 stokehold plates ✓ Are the Overboard Discharges above or below the deep water line ✓
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓
 How are they protected ✓
 Have they been tested as per rule ✓
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓
 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 Working Pressure

Is Forced Draft fitted No. and Description of Boilers

Is a Report on Main Boilers now forwarded?

Is a Donkey an Auxiliary Boiler fitted? If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters standard General Pumping Arrangements Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:— *In accordance with the Rules as per list enclosed.*

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

A. Cairng
DIRECTOR. Manufacturer

The foregoing is a correct description.

Dates of Survey while building

During progress of work in shops --	1929 Nov. 21, Dec. 6, 18, Jan. 25, 30, Feb. 3, 27, Mar. 18, 31, Apr. 7, 10, May 7, 12, 15, 19, 28, 30, June 4, 6, 10, 11, 12, 13, 1930
During erection on board vessel ---	July 1, 3, 7, 9, 10, 15, 16, 17, 18, 21, 22, 23, 25, 28, 29, 31, Aug 1, 6, 7, 12, 15, 18, 19, 20, 21, 22, 27, 28, Sep. 8, 26, 30, Oct. 1, 2.
Total No. of visits	59.

Dates of Examination of principal parts—

Casings	4.11.30.	Rotors	2.1.30	Blading	1.5.30	Gearing	30.5.30
Wheel shaft	30.5.30	Thrust shaft	13.6.30	Intermediate shafts	<input checked="" type="checkbox"/>	Tube shaft	<input checked="" type="checkbox"/>
Propeller	<input checked="" type="checkbox"/>	Stern tube	<input checked="" type="checkbox"/>	Engine and boiler seatings	<input checked="" type="checkbox"/>	Engine holding down bolts	<input checked="" type="checkbox"/>
Completion of pumping arrangements	<input checked="" type="checkbox"/>	Boilers fixed	<input checked="" type="checkbox"/>	Engines tried under steam	30.9.30		
Main boiler safety valves adjusted	<input checked="" type="checkbox"/>	Thickness of adjusting washers	<input checked="" type="checkbox"/>				
Rotor shaft, Material and tensile strength	<i>Forged Steel 40.0 tons</i>	Identification Mark	2464 WBS				
Flexible Pinion Shaft, Material and tensile strength	<i>0.4. Steel 30.4 tons</i>	Identification Mark	3168 WBS				
Pinion shaft, Material and tensile strength	<i>1st red. nickel steel 43.3 tons</i>	Identification Mark	2601 & 2600	<i>2nd red. nickel steel 43.0 tons</i>			
1st Reduction Wheel Shaft, Material and tensile strength	<i>0.4. Steel 30.8 tons</i>	Identification Mark	8624 WBS				
Wheel shaft, Material	<i>0.4. Steel</i>	Identification Mark	2600 WBS.	Thrust shaft, Material	<i>0.4. Steel</i>	Identification Mark	3161
Intermediate shafts, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>	Tube shaft, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>
Screw shaft, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>	Steam Pipes, Material	<input checked="" type="checkbox"/>	Test pressure	<input checked="" type="checkbox"/>
Date of test	<input checked="" type="checkbox"/>	Is an installation fitted for burning oil fuel	<input checked="" type="checkbox"/>				
Is the flash point of the oil to be used over 150°F.	<input checked="" type="checkbox"/>	Have the requirements of the Rules for the use of oil as fuel been complied with	<input checked="" type="checkbox"/>				
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo.	<input checked="" type="checkbox"/>	If so, have the requirements of the Rules been complied with	<input checked="" type="checkbox"/>				
Is this machinery a duplicate of a previous case	<i>yes</i>	If so, state name of vessel	<i>City of Windsor.</i>				

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

This machinery has been built under Special Survey. Materials & Workmanship good. It has been efficiently installed in the vessel & tried under steam & was found to be in good & safe working condition.

Certificate (if required) to be sent to the Registrar of Shipping (The Registrar is requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £	✓	When applied for.	29 OCT 1930
Special ... £	21-2-0	When received.	21.11.30
Donkey Boiler Fee ... £	✓		
Travelling Expenses (if any) £	✓		

William D. Duff
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 21 OCT 1930**

Assigned **FRI. 11 DEC 1931** **FRI. 26 FEB 1932** **TUE. 15 NOV 1932** **TUE. 16 DEC 1932**

Lloyd's Register Foundation