

REPORT ON STEAM TURBINE MACHINERY. No. 92276

Received at London Office -1 MAR 1935

Date of writing Report 10 When handed in at Local Office 27th Feb 1935 Port of Newcastle on Tyne
 No. in Survey held at Newcastle Date, First Survey 3rd Dec 1934 Last Survey 22nd Feb 1935
 Reg. Book. Low pressure Bauer-Wach turbine for Hull (Number of Visits 15)
 Built at Hull By whom built Charles J. Holmes & Co Ltd Yard No. 1472 Tons } Gross
 Engines made at Newcastle By whom made Swan Hunter & Wigham Richardson Engine No. 1472 When built } Net
 Boilers made at Hull By whom made Boiler No. When made }
 Shaft Horse Power at Full Power 304 Owners Port belonging to
 Nom. Horse Power as per Rule 51 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines One L.P. Exhaust Bauer-Wach Turbine
 No. 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 }
 direct coupled to { Alternating Current Generator phase periods per second } 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							23 7/8	396 7/8	1			
2ND							34	418	1			
3RD							44	438	1			
4TH							54	458	1			
5TH							65	480	1			
6TH							75	500	1			
7TH							87	524	1			
8TH							100	550	1			
9TH												
10TH												
11TH												
12TH												

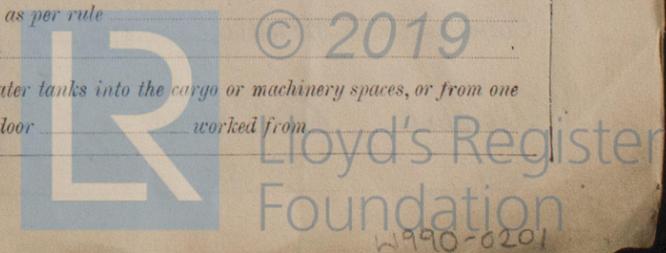
Shaft Horse Power at each turbine { H.P. 304 ✓
 I.P. Revolutions per minute, at full power, of each Turbine Shaft
 L.P. 7030 } 1st reduction wheel 715
 main shaft 116 ✓
 Rotor Shaft diameter at journals { H.P. 99.9 7/8
 I.P. Pitch Circle Diameter { 1st pinion 111.985 7/8 1st reduction wheel 1101.185 Width of Face { 1st reduction wheel 110 1/2
 L.P. 201.342 main wheel 1191.727 7/8 } main wheel 340 ✓
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 112 7/8 overhang 1st reduction wheel 196 7/8
 2nd pinion 268 5/8 main wheel 565 7/8 }

Flexible Pinion Shafts, diameter { 1st 99.9 External 180 7/8 diameter at bottom of pinion teeth { 1st 109.94
 2nd 20 Internal 20 } 2nd 197.64
 Wheel Shafts, diameter at bearings { 1st 200 7/8 diameter at wheel shroud, { 1st 1030 2 Generator Shaft, diameter at bearings ✓
 main 220 7/8 } main 108 7/8 Propelling Motor Shaft, diameter at bearings 220.2
 Intermediate Shafts, diameter as per rule 220.2 Thrust Shaft, diameter at collars as fitted 220.2 Tube Shaft, diameter as per rule 220.2
 as fitted 220.2 ✓

Screw Shaft, diameter as per rule Is the tube screw shaft fitted with a continuous liner { Bronze Liners, thickness in way of bushes as per rule as fitted
 Thickness between bushes as per rule 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 made 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 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 Oil Gland or other appliance fitted at the after end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller
 Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface 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 }
 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
 Are two independent means arranged for circulating water through the Oil Cooler 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 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
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



W 990-0201

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? If so, is a report now forwarded?

Is a Donkey Boiler fitted? (an Auxiliary) Main Boilers Auxiliary Boilers Donkey Boilers

Plans. Are approved plans forwarded herewith for Shafting (If not state date of approval) General Pumping Arrangements Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:— 2 studs & nuts each for turbine & pinion bearings, 2 top bolts for 1st reduction wheel bearings, 2 bolts & nuts for gear case top joint, 2 studs & nuts for gear case middle joint, 14 Michell pads for main thrust & 10 for turbine thrust also 3 liners, ring for 2nd reduction pinion thrust. Spring & set washers for governor

FOR SWAN, HUNTER & WIGHAM RICHARDSON, LTD
Geo Albright Manufacturer

The foregoing is a correct description,

Dates of Survey while building 1934 Dec. 3, 7, 10, 14, 20, 28 1935 Jan 3, 11, 14, 16, 22, 23, Feb. 4, 13, 22.
During progress of work in shops --
During erection on board vessel ---
Total No. of visits 15.

Dates of Examination of principal parts—Casings Rotors 4.2.35 Blading 4.2.35 Gearing 16.1.35
Wheel shaft 23.1.35 Thrust shaft Intermediate shafts Tube shaft Screw shaft
Propeller Stern tube Engine and boiler seatings Engine holding down bolts
Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers
Rotor shaft, Material and tensile strength 39.9 tons Identification Mark 10857MB
1st Pinion Shaft, Material and tensile strength 44.3 Identification Mark 10859MB
2nd Pinion shaft, Material and tensile strength 31.6 u Wheel 34.8 Identification Mark 10851MB 10863
1st Reduction Wheel Shaft, Material and tensile strength 43.4 u Wheel 32.8 Identification Mark 10854MB 1083
Wheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark
Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Marks
Screw shaft, Material Identification Marks Steam Pipes, Material Test pressure

Date of test Is an installation fitted for burning oil fuel
Is the flash point of the oil to be used over 150°F. Have the requirements of the Rules for the use of oil as fuel been complied with
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules been complied with
Is this machinery a duplicate of a previous case? If so, state name of vessel 14524 Kingston Cornelian also 1468 + 1470

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been constructed under special survey in accordance with the rules & approved plans, examined under steam on test bed & found satisfactory. The materials & workmanship are good. The machinery is being forwarded to Hull to be installed in conjunction with reciprocating machinery.

The amount of Entry Fee ... £ : :
Special 7/3... £ 3 : 8 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 28 FEB 1935
When received, 14.2.35 to Hull L.L.
J. A. Ferguson E. J. Stoddart.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 9 APR 1935
Assigned See Nuv. 36 45626

