

REPORT ON STEAM TURBINE MACHINERY. No. 19617.

t. 4a.

Received at London Office 7/11/49

Date of writing Report 1st Jan 1949 When handed in at Local Office 1st Jan 1949 Port of SOUTHAMPTON
 Date, First Survey 7th July Last Survey 27th Sept 1948
 No. in Survey held at PORTSMOUTH (Number of Visits 9)
 Reg. Book. 9553 on the S.S. "WAVE KING"
 Tons { Gross 8159 Net 4545
 Built at GLASGOW By whom built HARLAND & WOLFF LD Yard No. 1222 G When built 1946
 Engines made at NEWCASTLE-ON-TYNE By whom made C.A. PARSONS & CO LD Engine No. 2574/S When made 1944
 Boilers made at RENFREW By whom made BARCOCK & WILCOX LD Boiler No. 7124 When made 1944
 Shaft Horse Power at Full Power 6800 Owners THE ADMIRALTY Port belonging to LONDON
 Nom. Horse Power as per Rule 1270 MN=1496 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES
 Trade for which Vessel is intended CARRYING PETROLEUM IN BULK

STEAM TURBINE ENGINES, &c.—Description of Engines IMPULSE REACTION STEAM TURBINES

No. of Turbines Ahead TWO ~~Direct coupled~~ to ONE propelling shaft. No. of primary pinions to each set of reduction gearing TWO
 Astern ONE ~~single reduction geared~~ double reduction geared
 Direct coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;
 supplying power for driving Propelling Motors, Type
 Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LOADING.	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												
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												
18th												
19th												
20th												

Shaft Horse Power at each turbine { H.P. I.P. L.P. }
 Shaft diameter at journals { H.P. I.P. L.P. }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 2nd pinion }
 Pinion Shafts, diameter at bearings { External Internal }
 Wheel Shafts, diameter at bearings { 1st main }
 Intermediate Shafts, diameter as per rule as fitted 15.53 16" ✓ Thrust Shaft, diameter at collars as per rule as fitted 16.3 17" ✓ Tube Shaft, diameter as per rule as fitted
 Propeller Shaft, diameter as per rule as fitted 17.03 17 3/4 ✓ Is the screw shaft fitted with a continuous liner YES ✓ Bronze Liners, thickness in way of bushes as per rule as fitted 7/8"
 Thickness between bushes as per rule as fitted 3/4" 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 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 other appliance fitted at the after end of the tube shaft ✓ Length of Bearing in Stern Bush next to and supporting propeller 5'-10" ✓
 Propeller, diameter 18'-0" ✓ Pitch VARYING No. of Blades 4 State whether Moveable No Total Developed Surface 121 square feet.
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES Can the H.P. or I.P. Turbine exhaust direct to the condenser YES No. of Turbines fitted with astern wheels ONE Feed Pumps { No. and size 2-3" TURBO (WEIRS) How driven STEAM }
 Pumps connected to the Main Bilge Line { No. and size 1-10" x 9" x 10" FIRE & BILGE ; 1-10" x 9" x 10" BALLAST How driven STEAM }
 Bilge Pumps, No. and size 1-10" x 9" x 10" ✓ Lubricating Oil Pumps, including Spare Pump, No. and size 2-9" x 8" x 18" ✓
 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 1-3 1/2" & 2-2 1/2" E.R.B. SPACE 1-2 1/2" TUNNEL WELL
 Holds, &c. IN FORD CARGO HOLD 2@2"; FORE HOLD STORE & CHAIN LOCKER 2@2"; IN FORE HOLD PUMP ROOM 1@3"
 In Water Circulating Pump Direct Bilge Suctions, No. and size 1@13 1/2" ✓ Independent Power Pump Direct Suctions to the Engine Room
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-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 ✓
 All Sea Connections fitted direct on the skin of the ship YES ✓ Are they fitted with 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 Overboard Discharges above or below the deep water line BELOW ✓
 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 ✓
 Do all pipes pass through the bunkers ✓ How are they protected ✓
 Do all 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 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 Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

NEWCASTLE REPORT No. 102035.

End 9/2/49

BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers 10400 ϕ
 Is Forced Draft fitted **YES** No. and Description of Boilers 2 - **BABCOCK & WILCOX** Working Pressure **400 LBS/IN²**
 Is a Report on Main Boilers now forwarded? **YES** If so, is a report now forwarded? **YES**
 Is **a Donkey** Boiler fitted? **YES (2)** Main Boilers Auxiliary Boilers Donkey Boilers
 Plans. Are approved plans forwarded herewith for Shuffling (If not state date of approval) Oil Fuel Burning Arrangements
 Superheaters General Pumping Arrangements
 Spare Gear. State the articles supplied:— **AS REQUIRED**

The foregoing is a correct description.

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

Dates of Examination of principal parts—Casings Rotors Gearing
 Wheel shaft Thrust shaft Intermediate shafts Tube shaft Screw shaft
 Propeller Stern tube Engine and boiler fittings Engines tried under steam
 Completion of pumping arrangements Boilers fired
 Main boiler safety valves adjusted Identification Mark
 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 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 **YES**
 Is the flash point of the oil to be used over 150°F. **YES** Have the requirements of the Rules for the use of oil as fuel been complied with **YES**
 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

NEWCASTLE REPORT
 No. 102035
 SEE

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery and Boilers were installed in the vessel under British Corporation Survey. They have now been completely opened up, examined and found to be in good order. Please see Report 9 herewith.

The Machinery of this vessel is eligible, in my opinion, to have record of LMC 9,48 & notation T S Ch.

Certificate (if required) to be sent to...

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

H. B. Rogers
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 11 FEB 1949**

Assigned **LMC 9.48** (with endorsement)