

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 LTD Yard No. 1222 G When built 1944
 Engines made at NEWCASTLE-ON-TYNE By whom made C.A. PARSONS & CO LTD Engine No. 2574/5 When made 1944
 Boilers made at RENFREW By whom made BARCOCK & WILCOX LTD 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 1200 MN 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 single reduction geared to ONE propelling shaft No. of primary pinions to each set of reduction gearing TWO
 Astern ONE double reduction geared
 Direct coupled to Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;
 supplying power for driving Propelling Motors, Type
 ed Kilowatts Volts at revolutions per minute. 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. |
| EXPANSION | | | | | | | | | | | | |
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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. }
 For Shaft diameter at journals { H.P. I.P. L.P. } 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 } External Internal { 1st 2nd } diameter at bottom of pinion teeth { 1st 2nd }
 Wheel Shafts, diameter at bearings { 1st 2nd } main diameter at wheel shroud, { 1st 2nd } Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings
 Intermediate Shafts, diameter as per rule 15.53 as fitted 16" Thrust Shaft, diameter at collars as per rule 16.3 as fitted 17" Tube Shaft, diameter as per rule as fitted
 New Shaft, diameter as per rule 17.03 as fitted 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 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
 die 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&B. SPACE 1-2 1/2" TUNNEL WELL
 Tolds, &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
 es, No. and size 1@5" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES
 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
 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
 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
 at pipes pass through the bunkers How are they protected
 at pipes pass through the deep tanks Have they been tested as per rule
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES
 e 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
 artment to another YES Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

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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 **450 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

Wheel shaft

Thrust shaft

Intermediate shafts

Rotors

Gearing

Propeller

Stern tube

Engine and boiler casings

Screw shaft

Completion of pumping arrangements

Boilers fired

Engines tried under steam

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 Marks

Intermediate shafts, Material

Identification Marks

Tube shaft, Material

Test pressure

Screw shaft, Material

Identification Marks

Steam Pipes, Material

YES

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

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 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.

The amount of Entry Fee ... £
 Special ... £
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £

When applied for,

19

When received,

19

Committee's Minute

Assigned

LMC 9.48

(with endorsement)

H. B. Rogers.

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 11 FEB 1949

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