

REPORT ON STEAM TURBINE MACHINERY. No. 99128

L. 4a.

Received at London Office 2 SEP 1933

Date of writing Report 1st Sept 1933 When handed in at Local Office 10 Port of London
 Date, First Survey 20th June 1933, Last Survey 30th August 1933
 (Number of Visits 2)

No. in Survey held at Rugby
 Reg. Book. 4813 on the S.S. SEROOSKERK
 Tons Gross 6519 Net 3930

Built at Schiedam By whom built New Waterway S.B. Co. Yard No. - When built 1922/2
 Engines made at Rugby By whom made British Thomson-Houston Co. Ltd. Engine No. - When made 1922.
 Boilers made at Rugby By whom made British Thomson-Houston Co. Ltd. Boiler No. - When made 1933
 Shaft Horse Power at Full Power 5000 Owners N.V. Vereenigde Nederl. Scheepv. Maats Port belonging to The Hague
 Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 for which Vessel is intended

M TURBINE ENGINES, &c.—Description of Engines New H.P. and L.P. Rotors

Turbines Ahead 2 Direct coupled, single reduction geared to the propelling shafts No. of primary pinions to each set of reduction gearing
 Astern 2 double reduction geared
 coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;
 supplying 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. | | | H.P. astern | | | L.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 | 1.20" | 2'-8.29" | 1 | 1.25" | 2'-11.47" | 1 | 2.35" | 3'-1.64" | 1 | 3.53" | 3'-5.54" | 1 |
| " | 1.20" | 2'-3.49" | 1 | 1.82" | 2'-8.27" | 1 | 3.00" | 3'-14.22" | 1 | 4.90" | 2'-8.94" | 1 |
| " | 1.22" | 2'-4.98" | 1 | 2.39" | 3'-0.97" | 1 | 4.40" | 2'-7.64" | 1 | 6.18" | 3'-8.74" | 1 |
| " | 1.36" | 2'-7.19" | 1 | | | | 6.04" | 3'-11.95" | 1 | | | |
| " | 1.46" | 2'-9.02" | 1 | | | | 8.05" | 4'-4.96" | 1 | | | |
| " | 1.78" | 3'-11.42" | 1 | | | | | | | | | |

Horse Power at each turbine H.P. 2220 Note: Gearing efficiency 93.6% L.P. 3120
 Shaft diameter at journals H.P. 5" Pitch Circle Diameter I.P. 5" L.P. 5"
 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
 Pinion Shafts, diameter at bearings External 1st 2nd diameter at bottom of pinion teeth
 Internal 1st 2nd
 Propeller Shafts, diameter at bearings 1st diameter at wheel shroud, 1st main Propelling Motor Shaft, diameter at bearings
 2nd main

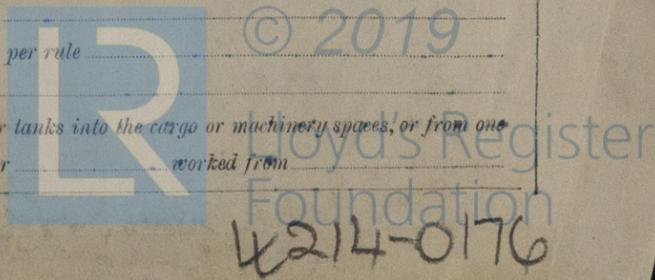
Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule Tube Shaft, diameter as per rule
 as fitted Is the tube shaft fitted with a continuous liner
 as fitted Is the after end of the liner made watertight in the propeller boss If the liner is in more than one length are 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 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.
 Angle Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or L.P. Turbine exhaust direct to the
 condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Pipes connected to the Main Bilge Line No. and size How driven
 Bilge Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
 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
 Pumps, &c.

Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
 No. and size 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
 Do pipes pass through the bunkers Have they been tested as per rule
 Do pipes pass through the deep tanks

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 _____ Working Pressure _____
 Is Forced Draft fitted _____ No. and Description of Boilers _____
Is a Report on Main Boilers now forwarded? _____
 Is { a Donkey } Boiler fitted? _____ If so, is a report now forwarded? _____
 { an Auxiliary }
Plans. Are approved plans forwarded herewith for Shafting _____ Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
 (If not state date of approval)
 Superheaters _____ General Pumping Arrangements _____ Oil Fuel Burning Arrangements _____
Spare Gear. State the articles supplied:—

THE BRITISH THOMSON-HOUSTON CO. LTD

The foregoing is a correct description,

per W. J. Pilsny

Man

Dates of Survey while building { During progress of work in shops -- } 1933 June 20, July 14, August 1, 24, 28. = 5 Visits.
 { During erection on board vessel --- }
 Total No. of visits _____

Dates of Examination of principal parts—Casings _____ Rotors 20/6/33 - 24/8/33, Blading 24/8/33 - 30/8/33 Gearing _____

Wheel shaft _____ 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 4.2.34 H.P. 33.8 Ton² L.P. 32.6 Ton² Identification Mark H.P. 9262-94

Flexible Pinion Shaft, Material and tensile strength Identification Mark L.P. 9264-94

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 _____

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 _____

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

These new turbine rotors, one H.P. and one L.P. have been specially surveyed during construction. The materials used have been made at works approved by the Committee and tested as required by the Rules. They have now been dispatched to Rotterdam for fitting onboard.

These new rotors are intended to give 5000 H.P. at a turbine speed of 1400 R.P.M. (original turbines 4000 @ 3600 R.P.M.) It is understood that the original gearing and shafting will be used, but a new propeller fitted and hull of vessel altered to Main.

Special Certificates, 1 for Rotor, 1 for new throttle valves, attached hereto
 Fitting Certificate 16 m² attached hereto.

| The amount of Entry Fee ... £ | When applied for, |
|--------------------------------|-------------------|
| Donkey Boiler Fee ... £ | 3/8 Aug '33 |
| Special ... £ 10 : 10 | 19/10 '33 |
| Donkey Boiler Fee ... £ | When received, |
| Travelling Expenses (if any) £ | 19/10 '33 |

Geo. A. Farrington
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 NOV 1933

Assigned See Rot 224919



N.B.—If this document is to be sent to the Committee's Minute, the Surveyors are requested not to write on or below the space for Committee's Minute.