

REPORT ON STEAM TURBINE MACHINERY.

No. 29659 D.
23 DEC 1946

Received at London Office

of writing Report 19 When handed in at Local Office 19 Port of Rotterdam
 in Survey held at Schiedam Date, First Survey 3-6-46 Last Survey 8-11-46
 g. Book. on the 1/2 DUIVENDIJK in Curacao & Vancouver (Number of Visits 29)
 Tons { Gross
 Net
 ilt at Hamburg By whom built Deutsche Werft Yard No. When built 1930
 gines made at By whom made Stolten & Voas Engine No. 403 When made 1923
 ilers made at By whom made " Boiler No. 1184-85 When made 1922
 aft Horse Power at Full Power 6200 Owners Holland America Lijn Port belonging to Rotterdam
 m. Horse Power as per Rule 1272 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
 ade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines 1 HP - 1 first MP - 1 sec. MP - 1 LP turbine

of Turbines Ahead 4 Direct coupled single reduction geared } to one propelling shafts. No. of primary pinions to each set of reduction gearing 2
 Astern 2 double reduction geared }
 ct coupled to { Alternating Current Generator phase 3 periods per second } rated 2 Kilowatts 2 Volts at 2 revolutions per minute;
 supplying power for driving 2 Propelling Motors, Type 2
 d 2 Kilowatts 2 Volts at 2 revolutions per minute. Direct coupled, single or double reduction geared to 2 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	<u>41</u>	<u>1441</u>	<u>1</u>	<u>38-113</u>	<u>1430.886</u>	<u>1.5</u>	<u>197</u>	<u>1324</u>	<u>2</u>	<u>37-81</u>	<u>1437.1481</u>	<u>1-1</u>
"	<u>41</u>	<u>1470</u>	<u>1</u>	<u>93-143</u>	<u>757.9465</u>	<u>5</u>	<u>247</u>	<u>1424</u>	<u>6</u>	<u>71-126</u>	<u>1471-1526</u>	<u>1-1</u>
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ft Horse Power at each turbine { H.P. 1550
 I.P. 1550 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 2150
 L.P. 1550 I.P. 2150
 L.P. 2150 1st reduction wheel ✓
 main shaft 110 ✓
 or Shaft diameter at journals { H.P. 120 mm Pitch Circle 38 1st pinion 170.105 mm 1st reduction wheel ✓
 I.P. 120 mm Diameter 38 2nd pinion 170.105 mm main wheel 3482.947 mm Width of Face { 1st reduction wheel ✓
 L.P. 120 mm 2nd pinion 170.105 mm main wheel 3482.947 mm Face { main wheel 28.65 mm 1330 mm

tance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 157.5 mm 1st reduction wheel ✓
 2nd pinion 157.5 mm main wheel 300 mm
 xible Pinion { 1st ✓ Pinion Shafts, diameter at bearings External 1st 155 mm 2nd ✓ diameter at bottom of pinion teeth { 1st ✓
 shafts, diameter { 2nd ✓ Internal 1st 65 mm 2nd ✓ { 2nd 46.36 mm

cel Shafts, diameter at bearings { 1st ✓ diameter at wheel shroud, { 1st ✓ Generator Shaft, diameter at bearings ✓
 main 400 mm main 435 mm Propelling Motor Shaft, diameter at bearings ✓
 ermediate Shafts, diameter as per rule 400 mm Thrust Shaft, diameter at collars as per rule 400 mm Tube Shaft, diameter as per rule ✓
 as fitted 384 mm as fitted 400 mm as fitted ✓

ew Shaft, diameter as per rule ✓ Is the { tube } shaft fitted with a continuous liner { Yes Bronze Liners, thickness in way of bushes as per rule ✓
 as fitted 394 mm screw } as fitted 16.5 mm
 as per rule ✓ 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 23.5 mm (Rot. Lubr. 7/4/47)
 as fitted 16.5 mm

e by fusion through the whole thickness of the liner one length If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a
 tic 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
 her appliance fitted at the after end of the tube shaft no Length of Bearing in Stern Bush next to and supporting propeller 1800 mm

PELLER, diameter 5200 Pitch 4000 No. of Blades 4 State whether Moveable Yes Total Developed Surface 9.3 m² square feet.
 iple Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes through 2 MP. Can the H.P. or L.P. Turbine exhaust direct to the
 ensor: Yes No. of Turbines fitted with astern wheels 2 Feed Pumps { No. and size 3-1 1/2 500 x 560 x 150 1 1/2 343 x 255 x 600. 1 1/2 270 x 150
 How driven 2 steam driven 1 electrically

aps connected to the Main Bilge Line { No. and size 1 1/2 40 x 1/2 h. 1 1/2 105 x 118 x 125. 1 1/2 100 x 1/2 h. ✓
 How driven electrically steam electrically
 last Pumps, No. and size 1 1/2 100 x 1/2 h. Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 190 x 190 x 350 mm

two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 ps, No. and size:—In Engine and Boiler Room 4 1/2 70 mm 1 1/2 90 mm. 2 1/2 150 mm.
 olds, &c. 8 in holds 1 1/2 90 mm 1 1/2 50 mm in up chamber and 5 in coffee dam 1 1/2 70 mm

n Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
 s, No. and size 1 1/2 350 mm 2 1/2 130 mm. 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 no

all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks both
 hey 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 above
 hey 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

pipes pass through the bunkers none How are they protected ✓
 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

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
 rtment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 1st floor

BOILERS, &c.—(Letter for record)

Total Heating Surface of Boilers

Superheaters $690 m^2 = 7383 \phi$ (Post letter 7/2/47)
 1500 M. 16140

Working Pressure 213 lb

Is Forced Draft fitted

No. and Description of Boilers 4 Multitubular

Is a Report on Main Boilers now forwarded?

If so, is a report now forwarded?

Is { a Donkey } Boiler fitted?

Plans. Are approved plans forwarded herewith for Shafting (If not state date of approval)

23-9-46

Main Boilers

23-9-46

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

23-9-46

Oil Fuel Burning Arrangements

Spare Gear.

State the articles supplied:—

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

Blading

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 fired

Engines tried under steam

Main boiler safety valves adjusted

8-11-46

Thickness of adjusting washers

Post from 15.5 23.4 15.4 22.4 24.23.4 24.23.4

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

Screw shaft, Material

Identification Marks

Steam Pipes, Material

Test pressure

30 kg

Date of test

9-10-46

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 carrying and burning oil fuel been complied with

Yes

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 has been comprehensions

opened up, examined and verified with the approved plans and found in order.

The pumping arrangements has been amended and made in accordance with the plan. Instead of one direct 4" suction in engine room, 2 have now been fitted of 5"

Machinery tried under working condition and found in order, and now in my opinion eligible to be classed in the Society's Register Book with L.M.C. 11-46. notation T.S. 10-46.

The amount of Entry Fee

Special

Donkey Boiler Fee

Travelling Expenses (if any)

When applied for,

19-11-1946

When received,

19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 31 JAN 1947

Assigned

LMC 11.46

FITTED FOR OIL FUEL

FLASH POINT ABOVE 150°F. F.D. C.L.



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