

REPORT ON STEAM TURBINE MACHINERY.

No. 135

Date of writing Report 15th Feb. 1936 When handed in at Local Office 15th Feb. 1936 Port of Winterthur Received at London Office 19 FEB 1936
 No. in Survey held at Zurich Date, First Survey 26th August 1935 Last Survey 26th January 1936
 Reg. Book. 23260 on the TWIN Sc. "CONTE ROSSO". (Number of Visits)
 Built at Glasgow By whom built W. Beardmore & Co. Ltd. Yard No. Tons Gross 1856
 Engines made at Zurich By whom made Escher Wyss Eng. Works Ltd. Engine No. 1064-5 When built 1922
 Boilers made at By whom made Boiler No. When made 1930
 Shaft Horse Power at Full Power 2500 Owners Lloyd Triestino. Port belonging to Trieste
 Nom. Horse Power as per Rule 416 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines Escher Wyss Primary Impulse Turbines

No. of Turbines Ahead 2 Direct coupled, single reduction geared } to existing turbines
 Astern ✓ double reduction geared }
 Direct coupled to Alternating Current Generator ✓ phase ✓ periods per second ✓
 for supplying power for driving Direct Current Generator ✓ rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute;
 Propelling Motors, Type ✓

TURBINE	Primary H.P. Turbine			I.P.			Primary L.P. Turbine			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	9.0 mm.	332 mm.	1				10.9 mm.	318.8 mm.	1			
2ND	7.5	230	1				12.2	259.4	1			
3RD	8.0	231	1				13.5	262	1			
4TH	8.5	232	1				15.0	265	1			
5TH	9.2	233.4	1				16.5	268	1			
6TH	9.7	234.4	1				18.0	271	1			
7TH	10.4	235.8	1				20.0	275	1			
8TH	11.2	237.4	1				20.5	276	1			
9TH												
10TH												
11TH												
12TH												
13TH												
14TH												
15TH												

Shaft Horse Power at each turbine { H.P. 1250 ✓
 { I.P. ✓
 { L.P. 1250 ✓
 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 9130
 { I.P. ✓
 { L.P. 9130
 Motor Shaft diameter at journals { H.P. 90 mm. ✓
 { I.P. ✓
 { L.P. 90 mm. ✓
 Pitch Circle { 1st pinion 149.5 mm. ✓
 Diameter { 2nd pinion ✓
 1st reduction wheel 462.6 mm. ✓
 main wheel ✓
 Width of Face { 1st reduction wheel 200 mm. ✓
 { main wheel ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 200 mm. ✓
 { 2nd pinion ✓
 1st reduction wheel 200 mm. ✓
 main wheel ✓

Pinion Shafts, diameter at bearings External 1st 100 mm. ✓
 Internal 1st 100 mm. ✓
 2nd 100 mm. L.P. Turbine ✓
 2nd 100 mm. L.P. Turbine ✓
 Pinion Shafts, diameter at bearings { 1st 142.1 mm. ✓
 { 2nd 142.1 mm. ✓

Wheel Shafts, diameter at bearings { 1st 160 mm. ✓
 { main ✓
 diameter at wheel shroud, { 1st 190 mm. ✓
 { main ✓
 Generator Shaft, diameter at bearings ✓
 Propelling Motor Shaft, diameter at bearings ✓

Intermediate Shafts, diameter as per rule ✓
 as fitted ✓
 Thrust Shaft, diameter at collars as per rule ✓
 as fitted ✓
 Tube Shaft, diameter as per rule ✓
 as fitted ✓

Low Shaft, diameter as per rule ✓
 as fitted ✓
 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 ✓
 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
 the 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 ✓
 Total Developed Surface square feet. ✓
 Can the H.P. or L.P. Turbine exhaust direct to the

Single 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

Sensor No. 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 ✓
 Lubricating Oil Pumps, including Spare Pump, No. and size Existing ✓
 Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Water Circulating Pump Direct Bilge Suctions, 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 the Overboard Discharges above or below the deep water line ✓
 Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓
 How are they protected ✓
 Have they been tested as per rule ✓
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓
 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
 ment 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

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Is a Report on Main Boilers now forwarded?

Is a Donkey Boiler fitted?

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:—

ESCHER WYSS
Engineering Works Ltd.

The foregoing is a correct description,

Dates of Survey while building
During progress of work in shops -- 26-8-35, 30-8-35, 9-9-35, 10-10-35, 18-10-35, 25-10-35, 8-11-35, 6-12-35, 12-12-35, 23-12-35, 30-12-35
During erection on board vessel -- 26-1-36
Total No. of visits

Dates of Examination of principal parts—Casings 12-12-35, 30-12-35 Rotors 12-12-35, 30-12-35 Blading 12-12-35, 30-12-35 Gearing 12-12-35, 30-12-35

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 Thickness of adjusting washers

Rotor shaft, Material and tensile strength Ch. Ni. Mo. Steel 83.2 and 89.5 Kg. mm² Identification Mark 867 W.V.22-10-35

Flexible Pinion Shaft, Material and tensile strength Ch. Ni. Steel 84.5 " 84.0 " " Identification Mark " 23-12-35

Pinion shaft, Material and tensile strength Ch. Ni. Steel 93.5 " 97.5 " " Identification Mark " 22-12-35

1st Reduction Wheel Shaft, Material and tensile strength S. M. Steel 59.0 " 43.3 " " Identification Mark " 22-12-35

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 carrying and burning oil fuel been complied with

Is this machinery a duplicate of a previous case no If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials and workmanship good. These two primary turbines together with one auxiliary circulating pump turbine and two auxiliary feed pump turbines have been run at no load in the shop with satisfactory results. The turbines are to be dispatched to Trieste to be installed in the vessel.

The amount of Entry Fee ... £ 80: When applied for, 18 Feb 36
Special ... £ 1400:
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ 90: 30. 34. 36 30/4

W.S. Vallis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 2 OCT 1936

Assigned

See Tri Rpt. 11378