

REPORT ON STEAM TURBINE MACHINERY. No. 62783

Received at London Office

Date of writing Report

19

When handed in at Local Office

9. 9. 40

Port of GLASGOW

No. in Survey held at

Glasgow

Date, First Survey

1940 12th Sept 1940

Last Survey

2nd Sept. 1940

Reg. Book.

on the S/S

"EMPIRE LIGHT"

(Number of Visits)

Tons

Gross 6827.85

Net

Built at

Glasgow

By whom built

Barclay Currier & Co. Ltd. Yard No. 677

When built 1940

Engines made at

do.

By whom made

do.

Engine No. 72

When made 1940

Boilers made at

do.

By whom made

do.

Boiler No. 677

When made 1940

Shaft Horse Power at Full Power 990

Owners Ministry of Shipping

Port belonging to

Glasgow

Nom. Horse Power as per Rule 165

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines One L.P. turbine with D.R. gearing + Hyd. Coupling.

No. of Turbines Ahead One Direct coupled, single reduction geared to One propelling shafts. No. of primary pinions to each set of reduction gearing One

direct coupled to Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;

for supplying power for driving Propelling Motors, Type rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	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							66 in.	832 in.	ONE			
2ND							84	868	"			
3RD							103	906	"			
4TH							122	944	"			
5TH							142	984	"			
6TH							163	1026	"			
7TH							185	1070	"			
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine H.P. I.P. L.P. 990 Revolutions per minute, at full power, of each Turbine Shaft H.P. I.P. L.P. 3730 1st reduction wheel 514 main shaft 90

Rotor Shaft diameter at journals H.P. I.P. L.P. 125 in. Pitch Circle Diameter 1st pinion 8.3555" 1st reduction wheel 60.6309" 2nd pinion 14.2834" main wheel 79.1298" Width of Face 1st reduction wheel 2.60 main wheel 6.00

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 22.5 in. 2nd pinion 42.5 in. 1st reduction wheel 36.0 in. 2nd reduction wheel 52.5 in. 1st wheel 7.7789" 2nd wheel 13.511"

TRANSMISSION Flexible Pinion Shafts, diameter 1st 115 in. 2nd 115 in. Pinion Shafts, diameter at bearings External 1st 12.5 in. 2nd 32.0 in. Internal 1st 35 in. 2nd 250 in. diameter at bottom of pinion teeth 1st 7.7789" 2nd 13.511"

Wheel Shafts, diameter at bearings 1st 230 in. 2nd 250 in. main 500 in. Generator Shaft, diameter at bearings 1st 1460 in. Propelling Motor Shaft, diameter at bearings 1st 1910 in. Thrust Shaft, diameter at collars 362 in. Tube Shaft, diameter as per rule as fitted

Intermediate Shafts, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the tube screw shaft fitted with a continuous liner

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 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 or other 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. Can the H.P. or I.P. Turbine exhaust direct to the

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Pumps connected to the Main Bilge Line No. and size How driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 8" x 9" x 18"

Ballast Pumps, No. and size Are 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

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room

Main Water Circulating Pump Direct Bilge Suctions, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Bilges, No. and size 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

Are all 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

What pipes pass through the bunkers How are they protected Have they been tested as per rule

What pipes pass through the deep tanks Are 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

W1128-0123

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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?
{ 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:— See attached list.



FOR BARCLAY, CURLE & CO., LTD

Alexander Macneill.

Chief Draughtsman

Manufacturer.

The foregoing is a correct description,

Dates { During progress of } 1940 April 12, June 19, July 16, 17, 23, 26, 30
of Survey { work in shops -- }
while { During erection on }
building { board vessel --- }
Total No. of visits 9

Dates of Examination of principal parts—Casings 12-4-40 Rotors 19-6-40 Blading 16-7-40 Gearing 17-7-40

Wheel shaft 19-6-40 Thrust shaft 19-6-40 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 SM. Steel 37.2 tons Identification Mark 167ERH 3-5-40

TRANSMISSION
Flexible Pinion Shaft, Material and tensile strength SM. Steel 32.2 tons Identification Mark 657LT 16-1-40

Pinion shaft, Material and tensile strength SM. Steel 48.4 tons Identification Mark 767ERH 5-3-40

1st Reduction Wheel Shaft, Material and tensile strength SM. Steel 30.2 tons Identification Mark 730LT. ATB 17-6-40

Wheel shaft, Material SM. Steel Identification Mark 169WTM Thrust shaft, Material SM. Steel Identification Mark 716CSP
ATB 17-6-40

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 Yes If so, state name of vessel "ITRIA" GLS. R. H. 62382

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel, tested under full load and found efficient.

GB
9/19/40

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 10 SEP 1940

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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