

REPORT ON STEAM TURBINE MACHINERY.

No. 102540

Received at London Office

Date of issuing Report

When handed in at Local Office

18/12/44 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle on Tyne

Date, First Survey 2nd March

Last Survey 19th Nov 1944

(Number of Visits 50)

Reg. Book. on the S/S "EMPIRE DYNASTY."

Tons } Gross
Net

Built at Sunderland By whom built J.L. Thompson & Co Ltd Yard No. 631. When built 1944-11.

Engines made at Hartlepool By whom made Richardson Westgarth & Co Engine No. 2744 When made 1944.

Boilers made at " By whom made do Boiler No. 2744 When made 1944

Shaft Horse Power at Full Power 6800 Owners 7122.6 (See Endorsement dated 13.12.44) Port belonging to

Nom. Horse Power as per Rule 1210 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Ocean going

TEAM TURBINE ENGINES, &c.—Description of Engines HP & LP Turbines, D/R Geared to one S. Shaft

No. of Turbines Ahead 2 ✓ Direct coupled, single reduction geared } to One ✓ propelling shaft No. of primary pinions to each set of reduction gearing ✓
Astern 1 ✓ double reduction geared

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

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 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.
1st EXPANSION												
2nd												
3rd												
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												
18th												
19th												
20th												

Shaft Horse Power at each turbine { H.P. 3500, I.P. 3300, L.P. 3300. } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 1st reduction wheel, I.P. main shaft 116, L.P. 1st reduction wheel

Motor Shaft diameter at journals { H.P. Pitch Circle Diameter 1st pinion 1st reduction wheel, I.P. 2nd pinion main wheel, L.P. 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 { 1st Pinion Shafts, diameter at bearings External 1st 2nd diameter at bottom of pinion teeth 1st 2nd

Wheel Shafts, diameter at bearings { 1st diameter at wheel shroud, 1st Generator Shaft, diameter at bearings, main 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 Screw 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 made by fusion through the whole thickness of the liner 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

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 If so, state type 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. 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

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

Waste Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge In Pump Room

Two independent means arranged for circulating water through the Oil Cooler

Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

How are they protected Have they been tested as per rule

What pipes pass through the bunkers

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

worked from

Cartover

011628-011635-0269

BOILERS, &c. (Letter for record S.) Total Heating Surface of Boilers 6840 sq ft
Is Forced Draft fitted Yes No. and Description of Boilers 2. Foster-Wheeler D Type Working Pressure 490 lb
Is a Report on Main Boilers now forwarded? Yes Steam pressure 475 lb at Superheater outlet
Is a Donkey Boiler fitted? Yes If so, is a report now forwarded? Yes NOTE: 1440 lb min
Is the donkey boiler intended to be used for domestic purposes only No. also for Evaporators
Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements
Has the spare gear required by the Rules been supplied Yes SPARE GEAR.
State the principal additional spare gear supplied As per specification
NOTE: See Secy's Letter dated 21st Sept 1944. also Secy's Letter of 9th Sept 1944. to Richardson Westgarth

The foregoing is a correct description,

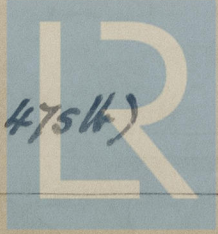
Dates of Survey while building 1944 - Jan. 2, Apr. 3, 5, May 18, June 13, 14, 19, July 4, 10, 12, Aug 4, 17, 23, Sep. 1, 5, 9, 11, 12, 13, 14, 15, 19
During progress of work in shops - Oct. 3, 4, 5, 6, 11, 17, 18, 19, 20, 24, 25, 26, 27, 30, 31, Nov. 1, 2, 3, 6, 7, 9, 10, 13, 19.
During erection on board vessel -
Total No. of visits 50. See also W. Hpl Rpt no 18550. of May 1944

Dates of Examination of principal parts - Casings Rotors Blading Gearing
Wheel shaft 12-5-44 Thrust shaft 18-4-44 Intermediate shafts Tube shaft Screw shaft
Propeller 10-11-44 Stern tube 30-10-44 Engine and boiler seatings 19-6-44 Engine holding down bolts 8-9-44
Completion of fitting sea connections 14-11-44 Completion of pumping arrangements 10-11-44 Boilers fixed 19-6-44 Engines tried under steam 5-10-44
Main boiler safety valves adjusted 2-11-44 Thickness of adjusting washers PORT BLK 15/64 SPT. OUTR V. SATURATED DRUM V. 19/64 9/32 11/64
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 Mark
Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Marks
Screw shaft, Material Identification Marks Steam Pipes, Material S.D. Steel (OH.) Test pressure 1425 lb
Date of test 7th & 28th Sept 1944 (4 closing lengths) 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 Yes in Ford Deep Tank. If so, have the requirements of the Rules been complied with Yes
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with not desired
Is this machinery a duplicate of a previous case Yes If so, state name of vessel Richardson Westgarth Imp 2739
General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery and Boilers have been efficiently fitted on board under Special Survey & in accordance with the Society's Rules, the approved plans & Specification, tested under working conditions at quay and at Sea with satisfactory results.
The machinery of this Vessel is eligible, in my opinion, for record + LMC 11.44
Richardson Westgarth Imp 2739
Furness SBC Crs Yard no 355.

The amount of Entry Fee £ : :
Special 1/5th Quackly 26-1-0
25% for Speed Super. 6-10-3
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 118 DEC 1944
When received, 19

Committee's Minute

Assigned + LMC 11.44 F.D. C.L 2 WTB 490 lb (Spt 475 lb)
Fitted for oil fuel 11.44 FLASH POINT ABOVE 160° F. D.B. 105 lb



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