

REPORT ON STEAM TURBINE MACHINERY. No. 69970

Received at London Office 20 SEP 1945

Form containing vessel details: Date of Writing Report (9-10-45), Port of (GLASGOW), No. in Survey held at (GLASGOW), Date, First Survey (19-9-44), Last Survey (5-9-45), Reg. Book, on the ("CITY OF CARLISLE"), Built at (BIRKENHEAD), By whom built (CAMELL LAIRD & CO. LTD.), Yard No. (1156), When built, Engines made at (GLASGOW), By whom made (BARCLAY CURLE & CO. LTD.), Engine No. (E.W.160), When made (1945), Boilers made at, By whom made, Boiler No., When made, Shaft Horse Power at Full Power (8,000), Owners, Port belonging to, Nom. Horse Power as per Rule, Is Refrigerating Machinery fitted for cargo purposes, Is Electric Light fitted, Trade for which Vessel is intended.

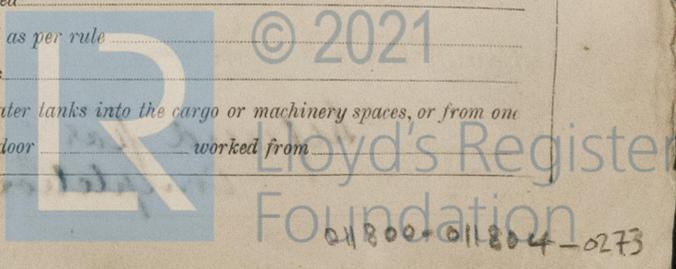
STEAM TURBINE ENGINES, &c.—Description of Engines PARSONS REACTION (astern impulse)

Form describing engine details: No. of Turbines (Ahead Three, Astern Two), Direct coupled, single reduction geared, double reduction geared, to One propelling shaft, No. of primary pinions to each set of reduction gearing (Three), direct coupled to Alternating Current Generator, phase, periods per second, 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 table with columns for H.P., I.P., L.P., and ASTERN. Rows include 1st Expansion, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th. Columns include Height of Blades, Diameter at Tip, No. of Rows, and details for Astern blades.

Form detailing shaft and turbine specifications: Shaft Horse Power at each turbine (H.P. 2666, I.P. 2666, L.P. 2666), Revolutions per minute, at full power, of each Turbine Shaft (H.P. 4500, I.P. 4500, L.P. 2400), Rotor Shaft diameter at journals (H.P. 5", I.P. 5", L.P. 8"), Pitch Circle Diameter (1st pinion L.P. 14.728", 2nd pinion 19.0184"), Distance between centres of pinion and wheel faces, Flexible Pinion Shafts diameter (1st, 2nd), Wheel Shafts diameter at bearings (1st 11", main 19"), Intermediate Shafts diameter, Thrust Shaft diameter at collars, Tube Shaft diameter, Screw Shaft diameter, Thickness between bushes, Propeller diameter, Pitch, No. of Blades, State whether Moveable, Total Developed Surface, Condenser, No. of Turbines fitted with astern wheels, Feed Pumps (No. and size, How driven).

Form detailing pump and suction details: Pumps connected to the Main Bilge Line (No. and size, How driven), Ballast Pumps, No. and size, Lubricating Oil Pumps, including Spare Pump, No. and size, Are 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, In Holds, &c., 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, What pipes pass through the bunkers, How are they protected, What pipes pass through the deep tanks, Have they been tested as per rule, 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.



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? No

Is a Donkey Boiler fitted? If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting No Main Boilers Auxiliary Boilers Donkey Boilers

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:— List attached.



The foregoing is a correct description,

A. Macneill

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1944 Sep 19, 27, Nov 11, 24, Dec 21, 27, 1945 Jan 4, 9, 17, 23, 26, 30, Feb 2, 9, 15, Mar 6, 8, 14, 27, 29, Apr 16, 19, May 15, 24, 29, Jun 5, 15, 19, 22, 27, 28. During erection on board vessel --- July 5, 4 Aug 1, 9, 10, 31 Sep 5. Total No. of visits 38.

Dates of Examination of principal parts—Casings HP 8-3-45, IP 14-3-45, MP 27-6-45. Rotor HP 5-6-45, MP 3-7-45. Blading 5-6-45, 3-7-45. Gearing 29-5-45.

Wheel shaft 29-5-45. 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 O.H. Steel 34/38 tons.

LLOYD'S TEST NOS. 610, 525, F. 1. Identification Mark N.K. 5-6-45 J.S. 3-7-

Flexible Pinion Shaft, Material and tensile strength

Sec. Pinion shaft, Material and tensile strength Nickel Steel 40 /48 tons.

LLOYD'S TEST NOS. 995, 996, 997. Identification Mark N.K. 29-5-45. LLOYD'S TEST NOS. 981, 985, 105. Identification Mark N.K. 29-5-45.

1st Reduction Wheel Shaft, Material and tensile strength Nickel Steel 40/48 tons.

Wheel shaft, Material Steel Identification Mark N.K. 29-5-45. 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 YES If so, state name of vessel s.s. "PAPAROA" Gls. Rpt.No. 67973

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been constructed under special survey in accordance with the rules and approved plans, tried under steam in engine works' test bed and found satisfactory.

The materials and workmanship are good.

The machinery is now ready for dispatch to Birkenhead for installation in Messrs. Cammell Laird's

Ship No. 1156

This machinery has been fitted on board, tried under working conditions & found satisfactory. See Gls. Liverpool Rpt No

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

H. Russell, Engineer Surveyor to Lloyd's Register of Shipping.

H. Sutherland, Liverpool

Committee's Minute GLASGOW 18 SEP 1945

Assigned Superfund for Completion

LIVERPOOL 26 FEB 1946 Lloyd's Register of Shipping

See Minutes on Liverpool Rpt. Machinery Report

Certificates (if required) to be sent to... (The Surveyors are requested not to write on or below the space for Committee's Minute.)