

REPORT ON STEAM TURBINE MACHINERY.

No. 6262

Rpt. 4a.

Received at London Office JUL 25 1940

Date of writing Report 22.7.40 When handed in at Local Office 40 Port of GLASGOW
 No. in Survey held at Glasgow Date, First Survey 1939 June 22 Last Survey 10th July 1940
 Reg. Book on the S/S "DALESMAN" (Number of Visits 15) Tons Gross 6343.44 Net
 Built at Pt. Glasgow By whom built Lithgow's Ltd. Yard No. 927 When built 1940
 Engines made at Glasgow By whom made David Rowan & Co. Ltd. Engine No. 1038 When made 1940
 Turbine made at -do- By whom made Barclay Curle & Co. Ltd. Boiler No. BW 67 When made 1940
 Shaft Horse Power at Full Power 1512 Owners T & J. Hanson Port belonging to Liverpool
 Nom. Horse Power as per Rule 252 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 double reduction gearing & hydraulic 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
 Astern
 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							94 in	1138 in	1			
2ND							115 "	1180 "	1			
3RD							136 "	1222 "	1			
4TH							157 "	1264 "	1			
5TH							179 "	1308 "	1			
6TH							207 "	1364 "	1			
7TH							235 "	1420 "	1			
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. 1512 I.P. 2640 L.P. 2640 } 1st reduction wheel 428 main shaft 82
 Rotor Shaft diameter at journals { H.P. 170 in I.P. 170 in L.P. 170 in } Pitch Circle Diameter { 1st pinion 11.1409" 1st reduction wheel 68.7722" Width of Face { 1st reduction wheel 310 mm 2nd pinion 8.2827" main wheel 91.6992" main wheel 680 mm }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 305 mm 1st reduction wheel 425 mm 2nd pinion 487 mm main wheel 590 mm }
 TRANSMISSION Flexible Pinion Shafts, diameter { 1st 90 mm 2nd } Pinion Shafts, diameter at bearings { External 1st 170 mm 2nd 420 mm Internal 1st 50 mm 2nd 355 mm } diameter at bottom of pinion teeth { 1st 10.5641" 2nd 17.5103" }
 Wheel Shafts, diameter at bearings { 1st 300 mm main 550 mm } diameter at wheel shroud, { 1st 1650 mm main 2218 mm } 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
 Screw Shaft, diameter as per rule as fitted Is the tube shaft fitted with a continuous liner Bronze Liners, thickness in way of bushes as per rule as fitted
 Thickness between bushes 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.
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.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 }
 Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 11 1/2" x 10 1/2" x 18"
 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.
 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 Working Pressure

Is Forced Draft fitted No. and Description of Boilers
 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 26/5/39 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:— List attached



FOR BARCLAY, CURLE & CO. LTD.
 Alexander Macmill. Chief Draftsman Manufacturer.

The foregoing is a correct description,

Dates of Survey while building: During progress of work in shops -- 1939 June 22 July 10, Aug. 2, 11, 18, 23 Sept. 7, 15, 29, Oct. 2, 9, 17
 During erection on board vessel --- 1940 Apr. 2, 23, July 10
 Total No. of visits 15

Dates of Examination of principal parts—Casings 29-9-39 Rotors 29-9-39 Blading 9-10-39 Gearing 2-10-39

Wheel shaft 2-10-39 Thrust shaft 29-9-39 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 10-7-40

Main boiler safety valves adjusted - Thickness of adjusting washers -

Rotor shaft, Material and tensile strength S.M. Steel 37.8 tons Identification Mark 8679AJB + test numbers

TRANSMISSION
 Pinion shaft, Material and tensile strength S.M. Steel 31.2 tons Identification Mark 8679AJB + test numbers

Pinion shaft, Material and tensile strength NICKEL STEEL 45.0 tons Identification Mark 8679AJB + test numbers

1st Reduction Wheel Shaft, Material and tensile strength S.M. Steel 31.2 tons Identification Mark 8679AJB + test numbers

Wheel shaft, Material S.M. Steel Identification Mark 8679AJB Thrust shaft, Material S.M. Steel Identification Mark 8679AJB + test numbers

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 "BARRISTER" G.L.S. Reg. No. 6126

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 the materials and workmanship are good. It has been satisfactorily installed in the vessel and tested under full load and found efficient.

22/7/40

The amount of Entry Fee ... £ : :
 Special ... £ 25 : 4 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 23 JUL 1940
 When received, 24th July 1940

Engineer Secretary to Lloyd's Register of Shipping.

Committee's Minute Glasgow 23 JUL 1940

Assigned



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