

REPORT ON STEAM TURBINE MACHINERY

Sld. No. 32139

Lon No. 104581

Received at London Office JUL 16 1937

Date of writing Report 23 June 1937 When handed in at Local Office 24 JUN 1937 Port of London 24 JUN 1937

No. in Survey held at West Drayton Date, First Survey 7 January 1937 Last Survey 31 May 1937
Reg. Book. Reduction Gearing for 8 1/2' Biddlestone (Number of Visits 4)

Built at Liverpool By whom built Wm. Beard & Sons Yard No. 450 When built 1937
Engines made at Hepburn & Lyne By whom made White Marine Eng. Co. Ltd. Engine No. 112 When made 1937

Boilers made at _____ By whom made _____ Boiler No. _____ When made _____

Shaft Horse Power at Full Power _____ Owners White Shipping Co. Ltd Port belonging to Newcastle
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 Reciprocating + Turbine Combination

No. of Turbines Ahead _____ Direct coupled, single reduction geared } to one propelling shaft. No. of primary pinions to each set of reduction gearing RECIP. UNIT 1
Astern _____ double reduction geared } TURBINE UNIT 1

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

Shaft Horse Power at each turbine TURBINE H.P. 730 I.P. _____ L.P. _____

Motor Shaft diameter at journals H.P. _____ I.P. _____ L.P. _____

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings

RECIP. ENG. Flexible Pinion Shafts, diameter { 1st 5 3/8" 2nd 4 7/8" } Pinion Shafts, diameter at bearings External 1st 4 1/2" Internal 1st 5" 2nd 5" diameter at bottom of pinion teeth { 1st 5-529" 2nd 11-717" }

Wheel Shafts, diameter at bearings { 1st 8 7/8" main 13 1/4" } diameter at wheel shroud, { 1st 49 1/2" main 70 1/4" } 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 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 _____ 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 _____ 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 _____ }

Ballast Pumps, No. and size _____ Lubricating Oil Pumps, including Spare Pump, No. and size _____ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room _____ In Pump Room _____

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

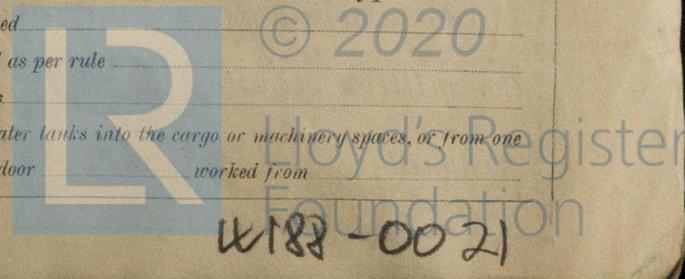
Bilges, No. and size _____ Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____

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 _____



W188-0021

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 }

Is the donkey boiler intended to be used for domestic purposes only

Plans. Are approved plans forwarded herewith for Shafting 7 4. 37 Main Boilers Auxiliary Boilers Donkey Boilers
 (If not state date of approval)

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

THE POWER PLANT COMPANY LTD

The foregoing is a correct description, OF GEARING

R. D. Hughes
 WORKS MANAGER 24. 6. 37

Manufacturer

Dates of Survey while building { During progress of work in shops -- } 1937 Jan. 7. March 19. May 26. 31
 { During erection on board vessel --- }
 Total No. of visits 4 (In Shops)

Dates of Examination of principal parts—Casings Rotors Blading Gearing 26. 6. 37

Wheel shaft 19. 3. 37. Thrust shaft Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

Completion of fitting sea connections 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 Identification Mark

Flexible Pinion Shaft, Material and tensile strength Steel 52 ton Identification Mark 746 LLOYDS (RW) 31. 5. 37.

Pinion shaft, Material and tensile strength Steel 47.2 ton Identification Mark 56390 LLOYDS (RW) 31. 5. 37.

1st Reduction Wheel Shaft, Material and tensile strength Steel 32.8 ton Identification Mark 12 LLOYDS (RW) 19. 3. 37.

Wheel shaft, Material Identification Mark LLOYDS (RW) 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 the use of oil as fuel been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules been complied with

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery a duplicate of a previous case If so, state name of vessel

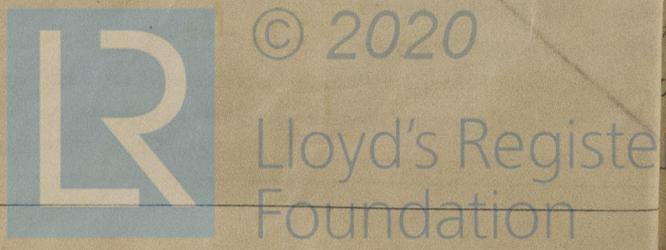
General Remarks (State quality of workmanship, opinions as to class, &c.)

The gearing has been constructed under Special Survey in accordance with the requirements of the Rules and approved plans. The materials have been made at Works approved by the Society & tested to Rule requirements. The workmanship is good & the gearing is eligible, in my opinion, for service in a classed vessel & to have the notation of +L.R.C. (with a) when satisfactorily installed & tested under full working conditions.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	9:0:0		to be collected
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	4:0:0	19	

See here Rpt. J. H. Garnett
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 20 JUL 1937
 Assigned See Sea 32319



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