

EXHAUST.

REPORT ON STEAM TURBINE MACHINERY. No. 50356

Rpt. 4a.

Received at London Office 14 MAY 1930

Date of writing Report 10-5-30 When handed in at Local Office 10-5-30 Port of Glasgow
No. in Survey held at Glasgow Date, First Survey 27-5-29 Last Survey 3-5-30
Reg. Book. City of Barcelona (Number of Visits 4)
Built at Glasgow By whom built Barclay Curle & Co. Yard No. 636 When built 1930
Engines made at Manchester By whom made Metropolitan Vickers Electrical Co. Ltd. Engine No. 2660 When made 1930
Boilers made at Glasgow By whom made Barclay Curle & Co. Boiler No. 636 When made 1930
Shaft Horse Power at Full Power 990 Owners The Ellerman Lines Ltd. Port belonging to Liverpool
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

meto-vickers Raleau Exhaust Turbine

No. of Turbines Ahead Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing.
Astern double reduction geared
direct coupled to Alternating Current Generator phase periods per second 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.

Table with columns: TURBINE BLADING, H.P., I.P., L.P., ASTERN. Rows: 1ST EXPANSION, 2ND, 3RD, 4TH, 5TH, 6TH, 7TH, 8TH, 9TH, 10TH, 11TH, 12TH. Includes handwritten note: See Manchester Rpt No 6974.

Shaft Horse Power at each turbine H.P., I.P., L.P. Revolutions per minute, at full power, of each Turbine Shaft H.P., I.P., L.P. 1st reduction wheel, main shaft
Rotor Shaft diameter at journals H.P., I.P., L.P. Pitch Circle Diameter 1st pinion, 2nd pinion, 1st reduction wheel, main wheel. 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, 2nd pinion, 1st reduction wheel, main wheel
Flexible Pinion Shafts, diameter 1st, 2nd Pinion Shafts, diameter at bearings External, Internal 1st, 2nd diameter at bottom of pinion teeth 1st, 2nd
Wheel Shafts, diameter at bearings 1st, main diameter at wheel shroud, 1st, main Generator 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 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
of 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
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
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 *See Glasgow Rpt for Blrs:* Working Pressure

Is Forced Draft fitted No. and Description of Boilers
Is a Report on Main Boilers now forwarded? *Yes.*

Is ~~Donkey~~ *an Auxiliary* Boiler fitted? *yes* If so, is a report now forwarded? *yes.*

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 Manchester Rpt: 6974

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel --- }
Total No. of visits *94* *See accompanying machy. Report*

Dates of Examination of principal parts—Casings Rotors Blading Gearing

Wheel shaft 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 Identification Mark

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 Test pressure

Date of test *10/5/30* 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 *no* If so, state name of vessel

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

The exhaust turbine, generator and propulsion motor mentioned in Manchester Rpt no 6974, have been properly fitted on board the vessel, tried under working conditions and found satisfactory.

The amount of Entry Fee ... £ : : When applied for, 19

Special ... £ : : When received, 19

Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

Committee's Minute **GLASGOW 13 MAY 1930**
Assigned *See accompanying machy Report.*

J.S. Ransin H.L. Sutherst.
ELECTRICAL Engineer Surveyors to Lloyds Register of Shipping.



Date of writing
No. in Sur Reg. Book.
on the
Built at
Engines made
Boilers made
Shaft Horse
Nom. Horse
EXHAUST
STEAM TURBINE
Direct coupled, s
Direct
One A
rated 990
PARTICUL
1ST EXPANSION
2ND
3RD
4TH
5TH
6TH
7TH
8TH
Shaft Horse
main shaft
Width of Face
1st pinion 13
Pinion Shafts
Wheel Shafts
Generator Shafts
Main Shafting
diameter of Screw
made watertight
part between the
shaft lapped or
lubricated
Pitch of Propeller
arrangements made
No. of Turbines
No. and size of
How driven
Spare Pump
connected to both
No. and size of
the Engine Room
the Bilge Sump
are all connections
are they fixed
are they each fitted
that pipes are
are all Pipes, Connections
the arrangements
apartment to an
MILES,
Forced Draft