

pt. 4a.

REPORT ON STEAM TURBINE MACHINERY. No. 60845

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Date of writing Report 14th March 1939 When handed in at Local Office 18.3.39 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 8.9.38 Last Survey 3rd March 1939
 Reg. Book. S/S "ADVISED" (Number of Visits 28) Tons ^{Gross} 6348 _{Net} 3886
 on the S/S "ADVISED"
 Built at Port Glasgow By whom built Hithgow Ltd Yard No. 917 When built
 Engines made at Glasgow By whom made Barclay Curle & Co Ltd Engine No. B.W.62 When made
 Boilers made at S.H.D. By whom made _____ Boiler No. _____ When made
 Shaft Horse Power at Full Power 1512 Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule 252 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____
 Trade for which Vessel is intended _____

STEAM TURBINE ENGINES, &c.—Description of Engines One L.P. Turbine with Double Reductor Gear & Hydraulic Coupling

No. of Turbines ^{Ahead} one ^{Astern} _____ ^{Direct coupled} _____ ^{single reduction geared} _____ ^{double reduction geared} _____ to one propelling shaft. No. of primary pinions to each set of reduction gearing one
 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.

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							94 mm	1158 mm	1			
3RD							115 "	1180 "	1			
4TH							136 "	1222 "	1			
5TH							154 "	1264 "	1			
6TH							149 "	1308 "	1			
7TH							204 "	1364 "	1			
8TH							235 "	1420 "	1			
9TH												
10TH												
1TH												
2TH												

Shaft Horse Power at each turbine { H.P. I.P. L.P. 1512 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. L.P. 2640 } 1st reduction wheel 428 main shaft 82

Rotor Shaft diameter at journals { H.P. I.P. L.P. 170 mm } Pitch Circle Diameter { 1st pinion 11.1404" 1st reduction wheel 68.7422" 2nd pinion 18.2827" main wheel 91.6992" } Width of Face { 1st reduction wheel 310 mm main wheel 680 mm

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 330 mm 2nd pinion 487 mm 1st reduction wheel 1830 mm main wheel 590 mm

Transmission Flexible Pinion Shafts, diameter { 1st 130 mm 2nd _____ } Pinion Shafts, diameter at bearings { External 1st 140 mm 2nd 420 mm Internal 1st 50 mm 2nd 355 mm } diameter at bottom of pinion teeth { 1st 10.5641" 2nd 14.5103"

Wheel Shafts, diameter at bearings { 1st 300 mm main 550 mm } diameter at wheel shroud, { 1st 1650 mm Generator Shaft, diameter at bearings _____ main 2278 mm Propelling Motor Shaft, diameter at bearings _____

Intermediate Shafts, diameter as per rule _____ as fitted 1574 Thrust Shaft, diameter at collars as per rule _____ as fitted 425 mm 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 lastic 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 _____

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 _____

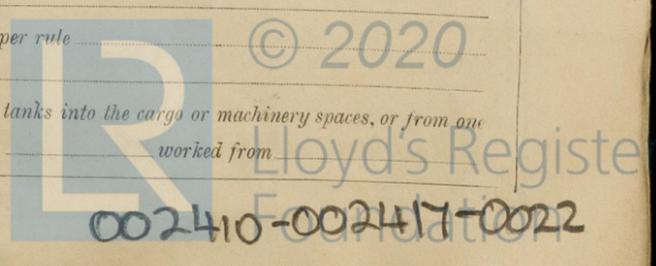
_____ Holds, &c. _____ Main Water Circulating Pump Direct Bilge Suctions, No. and size _____ Independent Power Pump Direct Suctions to the Engine Room _____

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 _____ 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 _____



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 an Auxiliary Boiler fitted? If so, is a report now forwarded?

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 attached list*



FOR BAROLAY, GURLE & CO., LTD.

Alexander Macnair
Chief Draughtsman

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1938 Sep: 8, 15, 27, 30 Oct: 4, 7, 14, 21, 28 Nov: 4, 9, 15, 17, 18, 24, 28 Dec: 1, 5, 9, 15 (1939)
During erection on board vessel --- Jan: 9, 24, 30 Feb: 3, 18, 24, 27 Mar: 3
Total No. of visits 28

Dates of Examination of principal parts—Casings 18-2-39 Rotors 30-1-39 Blading 27-2-39 Gearing 24-2-39

Man Wheel shafts 24-1-39 Thrust shaft 4-10-38 Intermediate shafts _____ Tube shaft _____ Screw shaft _____
1st Red " 14-11-38 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 *S.M. Eng't Steel 38.0 tons* Identification Mark *N° 8234 HAI 99 GA 98*

Transmission Pinion shaft, Material and tensile strength *S.M. Eng't Steel 31.4 tons* Identification Mark *N° 8235 HAI 93 GA*

1st & 2nd Reduc't Pinion shaft, Material and tensile strength *S.M. Eng't Steel 41.6 tons* Identification Mark *N° 8536 C.S.P. GA 60502 A*
1st Red Identification Mark *85402 " GA 60494 A*

1st Reduction Wheel Shaft, Material and tensile strength *S.M. Eng't Steel 31.8 tons* Identification Mark *N° 8234 HAI 91 GA*

Wheel shaft, Material *S.M. Eng't Steel* Identification Mark *N° 8234 HAI 90 GA* Thrust shaft, Material *S.M. Eng't Steel* Identification Mark *N° 8234 HAI 99 GA*

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. SCIENTIST S.M. N° 59888*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been built under special survey and in accordance with the Rules. The materials and workmanship are good. It will be fitted on board Messrs Lithgows Yard N° 914 at Glasgow in conjunction with Messrs G. Rowan's Eng. N° 1029.*

RB
18/3/39

The amount of Entry Fee ... £ : : } When applied for, **21 MAR 1939**
Special ... £ 25 : 4 }
Donkey Boiler Fee ... £ : : } When received,
Travelling Expenses (if any) £ : : } *29. 4 19 39/8/415*

G Anderson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 21 MAR 1939**

Assigned *Deferred*

