

REDUCTION GEARING

REPORT ON ~~STEAM TURBINE MACHINERY~~

No. 1935

Rpt. 4a.

Received at London Office JUL 28 1937

Date of writing Report 23rd July 1937 When handed in at Local Office 19 Port of BREMEN

No. in Survey held at BREMEN & WESERMÜNDE Date, First Survey 11th Aug 1936 Last Survey 21st July 1937

Reg. Book. 90466 on the SINGLE SCREW VESSEL TAKORADIAN

(Number of Visits 20) Tons Gross 5452 Net 3106

Built at WESERMÜNDE By whom built DESCHIMAG, WERK: SEEBECK Yard No. 572 When built 1937

REDUCTION GEARING VEngines made at BREMEN By whom made DESCHIMAG, WERK: A.G. WESER Engine No. V.A. 61 When made 1937

Boilers made at By whom made Boiler No. When made

Shaft Horse Power at Full Power 2300 Owners ELMINA CO LTD. ACCRA. Port belonging to FREETOWN

Nom. Horse Power as per Rule 577 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which Vessel is intended OPEN SEA SERVICE

STEAM TURBINE ENGINES, &c. — Description of MAIN ENGINES TWO 2 SCIA HEAVY OIL ENGINES, SINGLE REDUCTION GEARED TO

TWO VULKAN OIL COUPLINGS No. of Turbines Ahead Astern Direct coupled, single reduction geared double reduction geared to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2

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.

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 sub-columns for HEIGHT OF BLADES, DIAMETER AT TIP, NO. OF ROWS.

OIL ENGINE Shaft Horse Power at each turbine H.P. 1200 ✓ Revolutions per minute, at full power, of each Turbine Shaft L.P. 275 1st reduction wheel main shaft 90 ✓

PRIMARY Motor Shaft diameter at journals H.P. 330 Z with ✓ I.P. 120 Z Pitch Circle Diameter 1st pinion 600.655 Z 1st reduction wheel 2nd pinion main wheel 1788.187 Z Width of Face 1st reduction wheel main wheel 560 Z

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 490 & 750 Z 1st reduction wheel 2nd pinion main wheel 700 & 545 Z

Flexible Pinion Shafts, diameter 1st 2nd Pinion Shafts, diameter at bearings External 300 Z with ✓ Internal 120 Z 2nd ✓ diameter at bottom of pinion teeth 1st 584.145 Z 2nd 1771.667 Z WHEEL

THRUST Wheel Shafts, diameter at bearings 1st main 330 Z ✓ diameter at wheel shroud, 1st main 1710 Z 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 shaft If so, state type 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 Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room In Pump 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 That pipes pass through the bunks How are they protected

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

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

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.

Has the spare gear required by the Rules been supplied

State the principal ~~additional~~ spare gear supplied

2 compl sets of thrust bearing brasses for pinion shafts
8 pads & bolts for " " " " " "
1 compl set of bearing brasses for pinion shafts
2 compl sets of thrust bearing brasses for primary shafts
10 pads & bolts for " " " " " "
2 compl sets of thrust bearing brasses for Main shaft
12 pads & bolts for " " " " " "

1 compl set of main shaft bearing brasses
35 bolts for oil coolers
a number of bolts, studs & nuts for primary, pinion, main shaft bearings.

The foregoing is a correct description Deutsche Schiff- und Maschinenbau Aktiengesellschaft Manufacturer.

Dates of Survey while building During progress of work in shops -- During erection on board vessel ---
Total No. of visits 20
1936 Aug. 11. 12. 14. 20. 22. Sept 9. Oct. 2. 14. Dec. 10. 29. 1937 Jan. 6. 27. Feb. 2. 4. 15. March 9.

Dates of Examination of principal parts — Casings 10/12.36, 2.2.37 COUPLINGS 10/12. 29/12. 6/1.37 Blading Gearing 4/2 & 15.2.37

Wheel shaft 6/1. 4/2. 15/2 THURST PINION shaft 6/1, 4/2, 15.2 Intermediate shafts 6/1. 2/2. 15.2 Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts 28.5.37

Completion of fitting sea connections Completion of pumping arrangements Boilers fixed Engines tried under steam 17 & 21.7.37

Main boiler safety valves adjusted Thickness of adjusting washers

PORT PRIMARY Shaft, Material and tensile strength Piemens Martin Engel Steel 46.4 kg/cm² Identification Mark LLOYD'S J.L. 11138. 30.7.36 G.B. 15.2.37

STAR. PRIMARY Shaft, Material and tensile strength " " " " 46.4 kg/cm² Identification Mark LLOYD'S J.L. 11139. 30.7.36 G.B. 15.2.37

PORT Pinion shaft, Material and tensile strength Piem. Martin Nickel Steel 67.4 kg/cm² Identification Mark LLOYD'S M.B. 12548. 21.9.36 G.B. 15.2.37

STAR. PINION Shaft, Material and tensile strength " " " " 68.6 kg/cm² Identification Mark LLOYD'S M.B. 12547. 21.9.36 G.B. 15.2.37

1st Reduction Wheel Shaft, Material and tensile strength LLOYD'S M.B. 12383. 27.7.36 Identification Mark G.B. 15.2.37

THURST Wheel shaft, Material P.M. Steel 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 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 GAMBIAN

General Remarks (State quality of workmanship, opinions as to class, &c.) This single Reduction Gearing with oil couplings have been built under Special Survey in accordance with the approved plans, the Secretary's letters and in accordance with the requirements of the Rules. The materials have been tested as per Rule, and the workmanship is of good quality. During the vessels trial trip all parts were found working satisfactory in all respects.

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

A. Carrington G. H. C. Adams
Engineer Surveyor to Lloyd's Register of Shipping.

FRI 6 AUG 1937

Committee's Minute
Assigned See other F.E. rpt

