

REPORT ON STEAM TURBINE MACHINERY. No. 13112

Received at London Office 10 NOV 1947

4th Nov 47 When handed in at Local Office 4th Nov 47 Port of TRIESTE
 in Survey held at TRIESTE Date, First Survey 24 Apr 9 Last Survey 19
 on the S.S. "DIANA" (Number of Visits)
 Tons } Gross 3347
 Net 1929
 By whom built CANT. RIUNITI NAVALE Yard No. - When built 1923
 By whom made CANT. RIUNITI DEL ADRIATICO Engine No. - When made 1947
 By whom made CANT. RIUNITI NAVALE Boiler No. - When made 1923
 Horse Power at Full Power 2500 Owners ADRIATICA S.A. DI NAV. Port belonging to VENICE
 Horse Power as per Rule 463^{MM} Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
 for which Vessel is intended GENERAL CARGO & PASSENGERS

STEAM TURBINE ENGINES, &c.—Description of Engines D.R. GEARED, IMPULSE-REACTION TYPE

of Turbines Ahead 2 Direct coupled, single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2
 Astern 1 double reduction geared }
 at coupled to Alternating Current Generator — phase — periods per second } rated — Kilowatts — Volts at — revolutions per minute;
 supplying power for driving Propelling Motors, Type —
 at — Kilowatts — Volts at — revolutions per minute. Direct coupled, single or double reduction geared to — propelling shafts.

TURBINE LOADING.	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.
EXPANSION	32 ^{MM}	566 ^{MM}	1	IMPULSE WHEEL						INCORPORATED IN L.P. CASING.		
"	16 Rows REACTION BLADING VARYING FROM :-						14 Rows REACTION BLADING VARYING FROM :-			3 Rows IMPULSE :-		
"	30 ^{MM} 362 ^{MM}						34 ^{MM} 560 ^{MM}			40 ^{MM} 585 ^{MM} 1		
"	To :-						TO :-			55 ^{MM} 612 ^{MM} 1		
"	55 ^{MM} 410 ^{MM}						172 ^{MM} 828 ^{MM}			100 ^{MM} 662 ^{MM} 1		

ft Horse Power at each turbine { H.P. 1250
 I.P. —
 L.P. 1250
 Reolutions per minute, at full power, of each Turbine Shaft { H.P. 5760
 I.P. —
 L.P. 4480
 1st reduction wheel 1030
 main shaft 120 ✓
 Shaft diameter at journals { H.P. 120^{MM}
 I.P. —
 L.P. 120^{MM}
 Pitch Circle { 1st pinion { H.P. 169.6^{MM}
 Diameter { L.P. 218.1^{MM} 949.3
 2nd pinion { 305.4 main wheel 2619.4
 Width of Face { 1st reduction wheel 2x170^{MM}
 main wheel 500^{MM}
 distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 285^{MM} 1st reduction wheel 360^{MM}
 2nd pinion 420^{MM} main wheel 465^{MM} - 505^{MM}
 Coupling { 1st 108-H.P.
 2nd 110-L.P.
 Pinion Shafts, diameter at bearings { External 1st { 120^{MM} 220^{MM} ✓
 Internal 1st { — 2nd { — diameter at bottom of pinion teeth { H.P. 159.7^{MM}
 L.P. 208.2^{MM}
 Steel Shafts, diameter at bearings { 1st 220^{MM} Generator Shaft, diameter at bearings —
 main 350^{MM} diameter at wheel shroud, { 1st 325^{MM}
 main 460^{MM} Propelling Motor Shaft, diameter at bearings —
 Intermediate Shafts, diameter { as per rule —
 as fitted 280^{MM} Thrust Shaft, diameter at collars { as per rule —
 as fitted 310^{MM} Tube Shaft, diameter { as per rule —
 as fitted —
 New Shaft, diameter { as per rule —
 as fitted 322^{MM} Is the { tube } shaft fitted with a continuous liner { YES } Bronze Liners, thickness in way of bushes { as per rule —
 as fitted 16.5^{MM} Is the after end of the liner made watertight in the propeller boss YES If the liner is in more than one length are the junctions
 thickness between bushes { as per rule —
 as fitted 16.5^{MM}
 le 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
 stic 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
 ther appliance fitted at the after end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 1400^{MM}
 Propeller, diameter 4500 Pitch 3600 No. of Blades 4 State whether Moveable YES Total Developed Surface 6.32M² square feet.
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES Can the H.P. or I.P. Turbine exhaust direct to the
 denser YES No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size 2 MAIN ✓ 1 AUX ✓
 How driven STEAM STEAM
 mps connected to the Main Bilge Line { No. and size 1 @ 80T/HR. 1 @ 60T/HR. 1 @ 40T/HR.
 How driven INDEPENDENT STEAM
 Last Pumps, No. and size 1 @ 80T/HR 1 @ 60T/HR Lubricating Oil Pumps, including Spare Pump, No. and size 1 WORKING } 20T/HR
 1 SPARE } EACH
 two independent means arranged for circulating water through the Oil Cooler TAKEN FROM MAIN Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 mps, No. and size: — In Engine and Boiler Room 4 @ 70^{MM} DIA 1 @ 70^{MM} DIA IN TUNNEL
 Folds, &c. 2 @ 70^{MM} IN EACH
 in Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 110^{MM} STARBOARD SIDE Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES
 es, No. and size 1 @ 110^{MM} PORT SIDE
 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 YES
 all Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks YES
 they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YES Are the Overboard Discharges above or below the deep water line BELOW
 they each fitted with a Discharge Valve always accessible on the plating of the vessel YES Are the Blow Off Cocks fitted with a spigot and brass covering plate YES
 at pipes pass through the bunkers NONE How are they protected —
 at pipes pass through the deep tanks NONE Have they been tested as per rule —
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES
 he 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
 partment to another YES Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from DECK LEVEL

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BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 5755⁰
Is Forced Draft fitted YES No. and Description of Boilers 3 Cyl. S.E. Working Pressure 185 LB/0
Is a Report on Main Boilers now forwarded? YES
Is { a Donkey } Boiler fitted? No If so, is a report now forwarded? —
{ an Auxiliary }
Plans. Are approved plans forwarded herewith for Shafting YES Main Boilers YES Auxiliary Boilers — Donkey Boilers —
(If not state date of approval)
Superheaters YES General Pumping Arrangements YES Oil Fuel Burning Arrangements YES
Spare Gear. State the articles supplied:— RULE REQUIREMENTS

The foregoing is a correct description,

Manufactures.

Dates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel -- }
Total No. of visits

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

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 S Test pressure 555 LB/0

Date of test July-Aug 1947 Is an installation fitted for burning oil fuel YES
Is the flash point of the oil to be used over 150°F. YES Have the requirements of the Rules for carrying and burning oil fuel been complied with YES
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 machinery of this vessel was constructed under the inspection of the Registro Italiano. All the working parts have been opened up, examined, the bearings checked and found in accordance with the approved plans. The materials and workmanship appear good. The installation was subsequently found satisfactory under full working conditions at sea. In my opinion the machinery is eligible to be classed with records of L.M.C. 10,47 N.E. 10,47 2 STEAM TURBINES D.R. GEARED

The amount of Entry Fee ... £
Special ... Per letter : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 19...
When received, 19...

John McAfee
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FIL 19 DEC 1947

Assigned LMC 10,47
NE made 1943 fitted 10,47
S (C.L.) F.D. 3 SB 18576 Spt.



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