

REPORT ON STEAM TURBINE MACHINERY.

No. 14014

pt. 4a.

Date of writing Report 21st July 1954 When handed in at Local Office 10.8.54 Port of TRIESTE Received at London Office 14 AUG 1954

No. in Survey held at Monfalcone Date, First Survey 6.5.1953 Last Survey 8.7.1954

Reg. Book. 60694 on the S.T. "MARE NOSTRUM" (Number of Visits 65)

Built at Monfalcone By whom built Cant. Riun. dell' Adriat. Yard No. 1777 When built 1954

Engines made at Lynn Mass. U.S.A. By whom made General Electric Co. Turbine No. 10789H When made 1954

Boilers made at Cartered N.Y. U.S.A. By whom made Foster Wheeler Corp. Boiler No. 1408-409 When made 1954

Shaft Horse Power at Full Power 16000 Owners Frattelli d'Amico - Armatori Port belonging to Palermo

Nom. Horse Power as per Rule 3200 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended Carrying Petroleum in bulk

TEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines two Direct coupled single reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing two

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.

	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												

Shaft Horse Power at each turbine { H.P. ✓ I.P. ✓ L.P. ✓ } 1st reduction wheel

Motor Shaft diameter at journals { H.P. ✓ I.P. ✓ L.P. ✓ } main shaft

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion ✓ 1st reduction wheel ✓ 2nd pinion ✓ main wheel ✓ }

Flexible Pinion Shafts, diameter { 1st ✓ 2nd ✓ } Pinion Shafts, diameter at bearings { External ✓ Internal ✓ } diameter at bottom of pinion teeth { 1st ✓ 2nd ✓ }

Wheel Shafts, diameter at bearings { 1st ✓ 2nd ✓ } Generator Shaft, diameter at bearings { main ✓ } Propelling Motor Shaft, diameter at bearings { main ✓ }

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 ✓ }

Crew Shaft, diameter { as per rule ✓ as fitted ✓ } Is the ✓ 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 ✓

ade 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 ✓

astic 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 ✓

other appliance fitted at the after end of the tube shaft ✓ Length of Bearing in Stern Bush next to and supporting propeller 2300 in.

Propeller, diameter 6' 60" Pitch 53.50" No. of Blades ✓ State whether Movable fixed Total Developed Surface 18.6 square feet.

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine yes Can the H.P. Turbine exhaust direct to the ✓

Condenser yes No. of Turbines fitted with astern wheels one Feed Pumps { No. and size 2 at 76 cu. wt./h. & 1 at 84 cu. wt./h. How driven steam turbine }

Pumps connected to the Main Bilge Line { No. and size 1 of 100 T./h. - 1 of 90 T./h. - 1 of 40 T./h. - 1 of 100 T./h. (in fwd. pump room) How driven electric electric steam steam }

Fast Pumps, No. and size { 1 at 90 T./h. - 1 at 100 T./h. - 1 at 100 T./h. (in fwd. pump room) Lubricating Oil Pumps, including Spare Pump, No. and size 2 at 110 T./h.

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 E.R. 2 at 80" - C.D. frs. 53/54 2 at 70" - Fwd. P.R. 1 at 80" - C.D. frs. 93/94 2 at 90" - Fwd. P.P. 2 at 50" - Chain L. 1 at 80"

In Water Circulating Pump Direct Bilge Suctions, No. and size 1 at 18" Independent Power Pump Direct Suctions to the Engine Room ✓

ges, No. and size 1 at 150" both in E. & B.R. Are all the Bilge Suction pipes in Hold and Tunnel Watertight fitted with strum-boxes yes

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

are all Sea Connections fitted direct on the skin of the ship yes or fab. weld. box. Are they fitted with Valves or Cocks both

Are 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 both

Are 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

What pipes pass through the bunkers none 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 yes

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 yes Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c. - (Letter for record ✓) Total Heating Surface of Boilers 12973 sq. ft. each
Is Forced Draft fitted ✓ No. and Description of Boilers Two Foster Wheeler Working Pressure 650 lb./sq. in.
Is a Report on Main Boilers now forwarded? yes
Is { a Donkey } Boiler fitted? no If so, is a report now forwarded? ✓
Plans. Are approved plans forwarded herewith for Shafting ✓ Main Boilers app. in N.Y. Auxiliary Boilers ✓ Donkey Boilers ✓
(If not state date of approval)
Superheaters app. in N.Y. (U.S.A.) General Pumping Arrangements yes Oil Fuel Burning Arrangements 3rd March 1953

Spare Gear. State the articles supplied: - To Rule requirements
Torsional vibration characteristics of the shafting installation for this vessel were approved for a service speed of 110 R.P.M. (See Secretary's letter "Eng." 10.3.53).
With reference to the final paragraph of the above letter the undersigned attended various sea trials during which torsionograph records were taken. - No severe gear hammer or rough running was observed during the various speed ranges and only a very slight rough running was noted between 50 & 60 R.P.M. - (See letter and torsionograph record attached).

CANTIERI RIUNITI DELL'ADRIATICO
CANTIERE NAVALE MONFALCONE

The foregoing is a correct description,

Manufacturer

For items marked xx below please see Boston Mass. Rpt. H492
Dates of Survey while building { During progress of work in shops - - 1953 May 6, 7, June 16 Aug 24, Sept 3, 4, 8, 11, 16, 18, 21, 24, Oct 2, 7, 14, 16, 17, 28, Nov 28
During erection on board vessel - - - Dec 31, 1954 Jan 4, 20 Feb 1, 4, 11, 15, 16, 17, 22, 26, Mar 1, 5, 8, 18, 22, 26, 31
Total No. of visits 65 }
Dates of Examination of principal parts - Casings xx Rotors xx Blading xx Gearing 10th June 54
Wheel shaft xx Thrust shaft xx Intermediate shafts 26th April 54 Tube shaft ✓ Screw shaft 14th Oct. 54
Propeller 24th May 54 Stern tube 28th Oct. 54 Engine and boiler seatings 23rd April 54 Engine holding down bolts 3rd May 54
Completion of pumping arrangements 11th June 54 Boilers fired 12th May 54 Engines tried under steam 31st May 1954
Main boiler safety valves adjusted 3rd June 54 Thickness of adjusting washers ✓
Rotor shaft, Material and tensile strength xx Identification Mark xx
Flexible Pinion Shaft, Material and tensile strength xx Identification Mark xx
Pinion shaft, Material and tensile strength xx Identification Mark xx
1st Reduction Wheel Shaft, Material and tensile strength xx Identification Mark xx
Wheel shaft, Material xx Identification Mark xx Thrust shaft, Material xx Identification Mark xx
Intermediate shafts, Material S.M.S. Identification Marks 160/15 16 326 Tube shaft, Material ✓ Identification Marks ✓
Screw shaft, Material S.M.S. Identification Marks 160/15 16 231 Steam Pipes, Material 0.5% Mo. S.M.S. Test pressure 1350 lb./sq. in.
Date of test 7-2/5-3/9-3/10-3/18-3-54 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 the use of oil as fuel been complied with yes
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 ✓
Is this machinery a duplicate of a previous case yes If so, state name of vessel "Mare Adriatico" (Tri. Rpt. 12965)

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

The machinery of this vessel has been constructed under special survey, of tested materials and in accordance with the Secretary's letters and approved plans. The materials and workmanship are good. - The machinery has been efficiently installed on board the vessel to Rule requirements and found satisfactory when tried at sea under full working conditions. - The machinery of this vessel is eligible, in my opinion, to be classed with the records: + L.M.C. 7-54 - Screw shaft C.L. - Two steam turbines D.R. geared to screw shaft 2 W.T.B. 650 lbs. (Spt. 624 lbs.) H.S. 20980 sq. ft. F.D. - Fitted for oil fuel 7-54 F.P. above 150°F.

The amount of Entry Fee ... £ 484.500.-
Special ... £ : ✓
Donkey Boiler Fee (Assembl.) £ 200. H40.-
Car fund 55. 280.-
Travelling Expenses (if any) £ 112.300.-
+ 3% Rev. Tax. 25.574.
When applied for, 11.8.1954
When received, 19.8.1954

Committee's Minute

Assigned + LMC 7.54 (With Torsional End)

2 WTB 650 lb.

DUAL CLASS
L.R. & I.I.

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation