

Report on Steam Turbine Machinery. No. 14790

Received at London Office JUN 1958

Writing Report 27th May, 1958 When handed in at Local Office 31. 5 19 58 Port of TRIESTE
Survey held at Trieste Date, First Survey 27-3-1957 Last Survey 15 April, 1958
(Number of Visits 145)

on the ~~Steam~~ Screw Vessel "MARIAROSA AUGUSTA" Tons (Gross 23108)
at Trieste By whom built G.R.D. Adriatico Yard No. 1826 When built 1958 - 4
ies made at Trieste By whom made do Engine No. 306/307 When made 1958
s made at Glasgow & Trieste By whom made Babcock Wilcox & C.R.D.A. Boiler No. 2041/2042 When made 1957
Horse Power Maximum 17,600 Owners Società Armatoriale PRORA S.p.A. Port belonging to Palermo
as per Rule Service 16,000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
e for which Vessel is intended Carrying Petroleum in Bulk.

AM TURBINE ENGINES, &c.—Description of Engines Two De Laval impulse type steam turbines D.R. geared to single screwshaft.

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

TURBINE	H. P.	I. P.	L. P.	ASTERN.
ADING.				
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stage				

ft Horse Power at each turbine H.P. 8800 I.P. - L.P. 8800
coupling HP 289.539 mm LP 457.167 mm
tor Shaft diameter at bearings H.P. 150 mm I.P. - L.P. 165 mm
Pitch Circle Diameter HP & LP 618.049 mm
1st pinion HP 2290.913 LP 2123.285
1st reduction wheel 4267.081 mm
main wheel 4267.081 mm

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings
1st pinion 385 mm 1st reduction wheel 397 mm
2nd pinion 721 mm main wheel 835 mm

Pinion Shafts, diameter at bearings
1st HP 178 mm LP 200 mm
2nd HP 304.6 mm LP 609.4 mm
diameter at wheel shroud, main 609.4 mm
Generator Shaft, diameter at bearings 4089 mm
Propelling Motor Shaft, diameter at bearings 4089 mm

Intermediate Shafts, diameter as per rule as appd. 537 mm
Screw Shaft, diameter as per rule as appd. 626 mm reduced to 565 mm at coupling
Is the shaft fitted with a continuous liner Yes

Monze Liners, thickness in way of bushes as per rule as appd. 32.5/32 mm
Thickness between bushes as fitted 32.5/32 mm
Is the after end of the liner made watertight in the one length

opeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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
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
aft no If so, state type Length of Bearing in Stern Bush next to and supporting propeller 2745 mm

propeller, diameter 6700 mm Pitch 5715 mm No. of Blades 4 State whether Moveable fixed Total Developed Surface 18.45 square feet.
Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. and L.P. Turbines exhaust direct to the
condenser yes No. of Turbines fitted with astern wheels one Feed Pumps No. and size 3 X 108 tons per hour.
How driven Independent steam turbine

pumps connected to the Main Bilge Line No. and size 1 x 91 T/hr. M.E.R. - 1 x 136 T/hr. A.E.R. - 1 x 227 T/hr. - 1 x 159 T/hr. Frwd. Pump room
How driven Electric Steam Steam
ballast Pumps, No. and size 1 x 136 T/hr. 2 x 318 T/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 x 114 T/hr. (electric)
Are two independent means arranged for circulating water through the Oil Coolers Yes Branch Bilge Suctions, No. and size: In Engine
In Pump Room Afr. 1 x 100 mm Frwd. 1 x 80

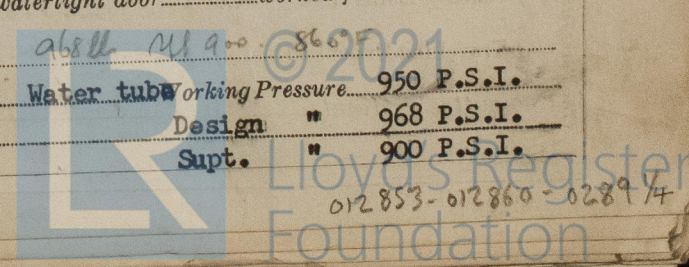
nd Boiler Rooms 8 x 90 mm dia. M.E.R. 3 x 90 mm. A.E.R.
n Holds, &c. In forecastle 2x80. 1x50. Chain locker 1x65 Windlass compartment 1x50
Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 x 500 mm. As required
Are all the Bilge Suction pipes fitted with strum-boxes yes

Bilges, No. and size M.E.R. 2x125 A.E.R. 1x125 Are the Bilge Suction pipes fitted with strum-boxes yes
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. yes
or fabricated boxes both

Are all Sea Connections fitted direct on the skin of the ship yes 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
below 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 none 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 none Is it fitted with a watertight door worked from.

BOILERS, &c.—Total Heating Surface of Boilers 19,490 sq.ft. (8615 x 2) + (1130 x 2) 950 P.S.I.
Is Forced Draught fitted Yes No. and Description of Boilers 2 - Two drums B & W. Water tube Working Pressure 968 P.S.I.
Is a Report on Main Boilers now forwarded? YES Supt. 900 P.S.I.



Is ☒ a Donkey ☐ an Auxiliary Boiler fitted? ☐ No ☐ 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 ☒ (14.9.56) ☒ (13.3.57) Main Boilers ☒ yes Auxiliary Boilers ☐ Donkey Boilers ☐

Superheaters ☒ yes General Pumping Arrangements ☒ yes Oil Fuel Burning Arrangements ☐
Geared turbines situated aft. ☐ Have torsional vibration characteristics of system been approved ☒ yes Date of approval 28/5/58 30.7.57

++ Plans retained for sister vessels.

SPARE GEAR.

Has the spare gear required by the Rules been supplied ☒ Yes

State the principal additional spare gear supplied. One propeller. One screwshaft and numerous miscellaneous items.

Speed Restriction: See Trieste letter dated 30th April, 1958 and Head Office reply dated 28th May, 1958.

Main Machinery not to be operated continuously between 47 **and** 53 R.P.M. **of screwshaft.**

A notice board has been fitted at the control station and the tachometer marked accordingly.

The foregoing is a correct description.

Cantieri Riuniti Dell'Adriatico

FABBRICA MACCHINE S. ANDREA

Manufa

Dates of Survey while building ☐ During progress of work in shops - ☐ During erection on board vessel - ☐ See separate sheet
Total No. of visits 145

Dates of Examination of principal parts—Casings Feb. 1958 Rotors Feb. 1958 Blading Feb. 1958 After trials 14.4
Wheel shaft Feb. 1958 Thrust shaft Dec. 1957 Intermediate shafts Dec. 1957 Tube shaft - Screw shaft 28.8.57

Propeller 13.9.57 Stern tube 4.9.57 Engine and boiler seatings 29.11.57 Engine holding down bolts 8.3.58

Completion of fitting sea connections 28.8.57 Completion of pumping arrangements 4.58 Boilers fixed 3.58 Sea trials 9. 101
Main boiler safety valves adjusted 12.4.58 Thickness of adjusting washers Port: Sat. A. 12.8 F. 13 Supt. 29.5 mm Aprt

Rotor shaft, Material and tensile strength See separate sheet Identification Mark 9 S
Flexible Pinion Shaft, Material and tensile strength -do- Identification Mark 2.2

Pinion shaft, Material and tensile strength -do- Identification Mark 958
Identification Mark 1.1

; Chemical analysis

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment

1st Reduction Wheel Shaft, Material and tensile strength see separate sheet

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 H.T. Steel Test pressure 148 kg/cm

Date of test various. January to April, 1958 Welds X-rayed 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

Full description of Fire Extinguishing Apparatus fitted in machinery spaces CO2 installation. Steam smothering. Portable extinguishers

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ☐ Water hoses and sand. 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 ☐ no

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 main and auxiliary machinery of this vessel has been constructed under special survey of tested materials in accordance with the Secretary's letters, approved plans and the requirements. The materials and workmanship are good. The main and auxiliary machinery has been efficiently installed on board this vessel and on completion tried at sea under full load conditions with satisfactory results.

The machinery of this vessel, in my opinion, is eligible to be classed with the following notations :-

+ LMC 4,58 Screwshaft CL

2 Steam Turbines D.R. geared to single screwshaft

2 W.T. Boilers 950 P.S.I. (Spt. 900 P.S.I.) H.S. 19,490 sq.ft. FD

Fitted for Oil fuel F.P. above 150°F 4,58

HE DURING CONST. 606.000 £m 15%
The amount of Entry Fee ... £IRE 515.100

HE DURING INST. 584.400 £m 15%
Special ... £IRE 496.746

(2) Donkey Boiler Fee ... £IRE 421.516

Travelling Expenses (if any) £IRE 94.500

Committee's Minute TUESDAY - 1 JUL 1958

Assigned See Rpt. 1

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register
Foundation

6 JUN 1958

Rpt. 9a- Contⁿ. SheetContinuation of Ship/Mchy. Report No. 14790
Continuation of Report No. dated 27.5.58

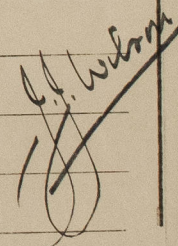
Port of

on the

"MARIAROSA AUGUSTA"

on the S.S./M.S. C.R.D.A. YARD.N°.1826 - TURBINE SETS. 306-307

PARTS	MATERIAL	Min.Tensile Strength Kg/mm ²	Identification Marks	Port and No.of Cert.
Propeller (Fitted)	Manganese	48.7	L.R. GEN. P.4502	GENOA C.14452
Propeller (Spare)	Bronze	47.8	L.R. GEN. P.4865	GENOA C.15088
Screwshaft (Fitted)	E.F.S.	50.7	L.R. NAP. 2992	NAPLES 2298
Screwshaft (Spare)	E.F.S.	47.4	L.R. NAP. 3091	NAPLES 2300
Intermediate Shaft	E.F.S.	44.8	L.R. NAP. 2970	NAPLES 2296
Intermediate Shaft	E.F.S.	46.8	L.R. NAP. 2991	NAPLES 2299
Intermediate Shaft	E.F.S.	46.8	L.R. NAP. 2971	NAPLES 2297
Thrust Shaft	F.S.		L.R. PHL.	Philadelphia 14.11.57
T U R B I N E S				
H.P. ROTOR	Ni.Mo.EFS	72.8	L.R. NAP. 3085	NAPLES 2274
H.P. UPPER AND	E.F.S.	68.5	L.R. GEN. P.384	GENOA C.14152
LOWER CASINGS	E.F.S.	64.0	L.R. GEN. P.369	GENOA C.14221
H.P. TURBINE SUPPORTS	E.F.S.	50.9	L.R. TRI.3134-3137	TRIESTE 3649
H.P. TURBINE THRUST	F.S.		L.R. PHL.	Philadelphia 14.11.57
FLEXIBLE COUPLING	NI.Cr.Mo.	91.9	L.R. GEN. P.26	GENOA F.25681
L.P. ROTOR	Ni.Mo.EFS	83.2	L.R. GEN. SS.5812	GENOA F.24435
L.P. ROTOR DISC	E.F.S.	89.2	L.R. HNO 25	HANNOVER F/57/698
L.P. ROTOR DISC	E.F.S.	93.0	L.R. HNO 140	HANNOVER F/57/1225
L.P. ROTOR DISC	E.F.S.	88.0	L.R. HNO. 26	HANNOVER F/57/698
L.P. ROTOR DISC	E.F.S.	88.4	L.R. HNO. 990	HANNOVER F/57/697
L.P. ROTOR DISC	E.F.S.	89.2	L.R. HNO. 59	HANNOVER F/57/697
LP. ROTOR DISC	E.F.S.	86.7	L.R. HNO. 459	HANNOVER F/57/1225
L.P. ASTERN DISC	E.F.S.	84.0	L.R. HNO. 991	HANNOVER F/57/696
AHD. L.P. UPPER AND	E.F.S.	48.6	L.R. GEN. P.383	GENOA C.14346
LOWER CASING	E.F.S.	50.9	L.R. GEN. P.370	GENOA C.14230
AST. L.P. UPPER AND	E.F.S.	55.4	L.R. TRI. 3135	TRIESTE 3662
LOWER CASING	E.F.S.	55.7	L.R. TRI. 3136	TRIESTE 3662
L.P. TURBINE CHEST.	E.F.S.	51.5	L.R. GEN. P.395-364	GENOA C.14225/420
L.P. TURBINE THRUST	F.S.		L.R. PHL.	Philadelphia 14.11.57
FLEXIBLE COUPLING	NI.Cr.Mo.	92.8	L.R. GEN. P.31	GENOA F.25682
COUPLING FLANGE	E.F.S.	57.7	L.R. MIL. 27	MILAN M.239



6 JUN 1958

Rpt. 9a- Contⁿ. Sheet

Continuation of Ship/Mchy. Report No. 14790

Continuation of Report No.

dated 27. 5. 58

on the

Port of

C.R.D.A. YARD.N°.1826 = GEARING

on the S.S./M.S.

"MARIAROSA AUGUSTA"

P A R T S	MATERIAL	Min.Tensile Strength Kg/mm2	Identification Marks	Port and No. of Cert.
1st REDUCTION H.P. PINION	Ni.Cr.Mo.	97.5	LR NAP. ✓ 3044	NAPLES 2270
1st REDUCTION L.P. PINION	Ni.Cr.Mo.	96.2	LR NAP. ✓ 3043	NAPLES 2269
H.P. FLEXIBILE COUPLING	Ni.Cr.Mo.	91.9	LR GEN. ✓ P.26	GENOA F.25681
H.P. FLEXIBILE COUPLING	E.F.S.	73.6	LR GEN. P.45	GENOA F.25683
L.P. FLEXIBILE COUPLING	Ni.Cr.Mo.	92.8	LR GEN. ✓ P.31	GENOA F.25682
L.P. FLEXIBILE COUPLING	E.F.S.	73.6	LR GEN. ✓ P.45	GENOA F.25683
1st REDUCTION H.P.WHEEL RIM.	E.F.S.	68.2	LR NAP. ✓ 2859	NAPLES 2249
1st REDUCTION H.P.WHEEL SHAFT	E.F.S.	59.8	LR NAP. ✓ 2985	NAPLES 2187
1st REDUCTION H.P.WHEEL DISCS	M.S.	-	LR. 713815	DONAWITZ 6.11.56
1st REDUCTION H.P.WHEEL HUB.	E.F.S.	51.5	LR.GEN. ✓ SS.5497	GENOA F.23653
1st REDUCTION H.P.WHEEL NUT.	E.F.S.	45.3	LR.MI. ✓ IL.545	MILAN M.150
1st REDUCTION L.P. WHEEL RIM	E.F.S.	64.4	LR.NAP. ✓ 2908	NAPLES 2250
1st REDUCTION L.P. WHEEL SHAFT	E.F.S.	59.8	LR.NAP. ✓ 2986	NAPLES 2187
1st REDUCTION L.P.WHEEL DISCS	M.S.	-	LR. 713815	DONAWITZ 6.11.56
1st REDUCTION L.P.WHEEL HUB.	E.F.S.	49.8	LR.GEN. ✓ SS.5487	GENOA F.23654
1st REDUCTION L.P.WHEEL NUT.	E.F.S.	45.3	LR.MI. ✓ IL.545	MILAN M.150
H.P. QUILL SHAFT	Ni.Cr.Mo.	74.8	LR.NAP. ✓ 2864	NAPLES 2145
L.P. QUILL SHAFT	Ni.Cr.Mo.	77.4	LR.NAP. ✓ 2865	NAPLES 2145
2nd REDUCTION H.P. PINION	E.F.S.	91.0	LR.MI. ✓ 2281	MILAN F.2874
2nd REDUCTION L.P. PINION	E.F.S.	96.8	LR.MI. ✓ 726	MILAN F.2511
H.P. FLEXIBILE COUPLING	Ni.Cr.Mo.	97.0 / 92.2	✓ P.9 - P.37	GENOA F.24734/680
H.P. FLEXIBILE COUPLING	E.F.S.	65.8	LR.GEN. P.36	GENOA F.25679 -
L.P. FLEXIBILE COUPLING	Ni.Cr.Mo.	97.0 / 92.2	✓ P.9 - P.37	GENOA F.24734/680
L.P. FLEXIBILE COUPLING	E.F.S.	65.8	LR.GEN. ✓ P.36	GENOA F.25679 -
MAIN GEAR WHEEL RIM	E.F.S.	68.9	LR.NAP. ✓ 3012	NAPLES 2251
MAIN GEAR WHEEL SHAFT	E.F.S.	58.5	LR.NAP. ✓ 2974	NAPLES 2188
MAIN GEAR WHEEL DISCS	M.S.	-	LR. 715431	DONAWITZ 6.11.56
MAIN GEAR WHEEL HUB	E.F.S.	46.4	LR.GEN. ✓ SS.5536	GENOA F.23697
MAIN GEAR WHEEL NUT	E.F.S.	44.1	LR.MI. ✓ IL.546	MILAN M.150



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pt 5c.
Kpt. 9a.

6 JUN 1958

Port of Trieste

Continuation of Report No. 14790 dated 27.5.58
MARIAROSA AUGUSTA

on the

and Rule requirements and have been tested hydraulically to the required pressures on completion.

The materials and workmanship are good.

The boilers and superheaters have been examined under full steaming conditions and their safety valves adjusted to the pressures stated above.

Satisfactory accumulation tests have been carried out.

The boilers are eligible, in my opinion, for the highest classification and to have the Notation :-

2 WT boilers 950 P.S.I. Supt. 900 P.S.I. F.D. O.F.

Heating surface 19,490 sq.ft.

J. J. [Signature]

