

# Report on Steam Turbine Machinery. No. 14646

Received at London Office  
 Date of writing Report 29th Aug. 1957 When handed in at Local Office 19 Port of TRIESTE  
 No. in Survey held at Trieste Date, First Survey 28.5.56 Last Survey 7.8. 1957  
 Reg. Book (Number of Visits 124)  
 40014 on the ~~Trieste~~ <sup>Single</sup> Screw Vessel "ADRIANA AUGUSTA" Tons (Gross 30383 Net 18826)  
 Built at Trieste By whom built C.R.D. Adriatico Yard No. 1823 When built 1957 - 8  
 Engines made at TRIESTE By whom made C.R.D. Adriatico Engine No. 299/301 When made 1957  
 Boilers made at Philadelphia U.S.A. By whom made Foster Wheeler U.S.A. Boiler No. 2031/2032 When made 1957  
 Shaft Horse Power Maximum 14,100 Service 13,000 Owners PRORA S.p.A. Palermo Port belonging to Palermo  
 M.N. as per Rule 2820 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted yes  
 Trade for which Vessel is intended Carrying Petroleum in Bulk.

## STEAM TURBINE ENGINES, &c.—Description of Engines. Three steam turbines D.R. geared to one screwshaft

No. of Turbines Ahead 3 Direct coupled, 1 propelling shafts. No. of primary pinions to each set of reduction gearing 3  
 Astern 2 double reduction geared  
 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 BLADING.	H. P.	I. P.	L. P.	ASTERN.
Impulse Blading	No. of rows 2	-	-	3 on I.P. Rotor 3 on L.P. Rotor
Reaction Blading	No. of stages 4	4	11	
No. of rows in each stage	2x5 and 2x4	3x3 and 1x6	1x2 & 10 x 1	
Shaft Horse Power at each turbine	H.P. 4580 I.P. 4710 L.P. 4710	Revolutions per minute, at full power, of each Turbine Shaft	H.P. 4881 I.P. 4881 L.P. 2771.9	1st reduction wheel 887.5 main shaft 105 2x280 mm.
Rotor Shaft diameter at journals	H.P. 120 mm I.P. 120 mm L.P. 210 mm.	Pitch Circle Diameter 1st pinion 250.32 mm LP 440.78 2nd pinion 476.54	1st reduction wheel 1376.77 main wheel 4027.74 mm	Width of Face 1st reduction wheel 2x280 mm main wheel 2x508 mm
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings	1st pinion 454.5 2nd pinion 739 mm	1st reduction wheel 523.5 & 469.5 mm	main wheel 883.5 mm	
Quill	HP IP 152 LP 210 mm	External 1st 350 mm Internal 2nd 258	HP. IP 246.72 diameter at bottom of pinion teeth	1st LP 437.18 mm 2nd 455 mm.
Pinion Shafts, diameter at bearings	1st 255 mm. main 600 mm/545 at Coup.	1st 1250 mm main 3885/8 mm	Generator Shaft, diameter at bearings	Propelling Motor Shaft, diameter at bearings
Wheel Shafts, diameter at bearings	as per rule as app. as fitted 474 mm.	Thrust Shaft, diameter at collars	as per rule as app. as fitted 550/545 mm.	
Intermediate Shafts, diameter	as per rule as app. as fitted 565/542	Is the screw shaft fitted with a continuous liner	yes	
Screw Shaft, diameter	as per rule as app. as fitted 27.5 mm	Thickness between bushes	as per rule as app. as fitted 19.5 mm	Is the after end of the liner made watertight in the propeller boss. yes
Bronze Liners, thickness in way of bushes	as per rule as app. as fitted 27.5 mm	Thickness between bushes	as per rule as app. as fitted 19.5 mm	Is the after end of the liner made watertight in the propeller boss. yes
Propeller, diameter 6400 mm Pitch 5700 mm No. of Blades 4	State whether Moveable fixed	Total Developed Surface 14.48 square mts.		
Condenser yes	No. of Turbines fitted with astern wheels 2	Feed Pumps	No. and size 2 x 73 cub.mt/hr. 1 x 84 T/hr	
Pumps connected to the Main Bilge Line	No. and size 1 x 100 T/hr. M.E.R. 1x100+1x40T/hr. blr. room. 1 x 100 T/hr fwd. P.R.	How driven electrically	Elec. Steam	
Ballast Pumps, No. and size 2x100 T/hr aft 1x100T/hr fwd	Lubricating Oil Pumps, including Spare Pump, No. and size 2x 110 T/hr			
Are two independent means arranged for circulating water through the Oil Cooler yes	Branch Bilge Suctions, No. and size: In Engine 2x80mm 1x100 mm			
and Boiler Rooms E.R. 2x80mm 1x100mm C.D. 2x50mm B.R. 2x65 CD 1x50mm	In Pump Room 2x80mm 1x100 mm			
CD Frm. 53/54 2x65 CD Frm. 93/94 2x90mm Fwd. pump room 1x80mm Fwd. spaces 2x80mm				
Main Water Circulating Pump Direct Bilge Suctions, No. and size 1x450 mm	Direct Bilge Suctions to the Engine and Boiler Room			
Bilges, No. and size 1x150mm in each	Are all the Bilge Suction pipes except Tunnel Well 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				
Are all Sea Connections fitted direct on the skin of the ship. yes or on fabricated boxes 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 ne. 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 overing plate. yes			
What pipes pass through the bunkers. none	How are they protected. none			
What pipes pass through the deep tanks. none	Have they been tested as per rule. yes			
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 Boilers=2x6290 Superhts.=2x1295 1/2 Evap. 2x2485 Total=20,140 sq.ft.				
Is Forced Draught fitted. yes	No. and Description of Boilers Two F.W.2 drum'D' type WT	Working Pressure 650 lbs/sq.ins.		
Is a Report on Main Boilers now forwarded? yes				



Is ~~a Donkey~~ ~~an Auxiliary~~ ~~Steam generator~~ ~~intended to be used for domestic purposes only~~ ☒ **Boiler fitted?** One steam generator fitted ☒ If so, is a report now forwarded? ☒ and Trieste Rpt.5c N° 14646

Plans. Are approved plans forwarded herewith for Shafting ☒ Main Boilers ☒ ~~XXXXXXX~~ ☒ No ☒ Donkey Boilers ☒

Superheaters ☒ General Pumping Arrangements ☒ Oil Fuel Burning Arrangements ☒ Date of approval 25.5.56

Geared turbines situated aft. ☒ Have torsional vibration characteristics of system been approved ☒ 30/9/57

## SPARE GEAR.

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

State the principal additional spare gear supplied 1 screwshaft 1 cast iron propeller  
HND HL 874 12-84

NOTE: Main machinery not to be operated continuously between 75 and 82 RPM of screwshaft.

See Trieste letter 'ENG' with enclosures dated 17.8.57.  
A notice board worded as above has been provisionally fitted at the control station and the tachometer marked accordingly.

Cantieri Riuniti Dell'Adriatico  
FABBRICA MACCHINE S. ANGELO  
Manufacturer.

The foregoing is a correct description.

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	After trials
				January - May, 1957					7.8.57
				May 1957	Thrust shaft	Intermediate shafts	Tube shaft	Screw shaft	12.3.57
				29.3.57	22.3.57	30.4.57	30.4.57	13.6.57	shop 23.5.57
				29.3.57	Completion of pumping arrangements	3.8.57	Boilers fixed	Engines tried under steam	3.8.57
				6.8.57	Thickness of adjusting washers	Port Boiler FD 14.5 mm.	Aft 13.7mm.	Supt. 11	
					STRbd. boiler FD 16.5mm	Aft 14.6mm	Supt. 11		
					Identification Mark				
					SEE				
					SEPARATE SHEET				
					Identification Mark				
					Identification Mark				

Pinion shaft, Material and tensile strength ☒ 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 Identification Mark

Wheel shaft, Material see sep. sheet Identification Mark

Intermediate shafts, Material S.M.S. Identification Marks HND HL 179

Screw shaft, Material S.M.S. Identification Marks HND HL 873

Date of test 26.6 2nd and 11th July, 1957

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 Remote control CO<sub>2</sub> installation, Portable extinguishers, water hoses, sand, steam installation

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 ☒ not required

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with ☒ If so, state name of vessel "MIRELLA" (CRDA Yard 1775)

Is this machinery similar to a previous case ☒ yes

General Remarks. (State quality of workmanship, opinions as to class, &c.) The main and auxiliary machinery of this vessel have been constructed under special survey of tested materials in accordance with the Secretary's letters, approved plans and the Rule requirements. The materials and workmanship are good.

The main and auxiliary machinery have been efficiently installed aboard the 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 notation

+LMC - 8,57 Screwshaft CL 3 steam turbines D.R. geared to screwshaft. 2WT boilers 650 PSI (spt. 624 PSI) HS 20,140 sq.ft. FD

One steam generator 128 PSI

Fitted for oil fuel F.P. above 150°F - 8,57

During construction & install.

The amount of Entry Fee	When applied for
£ 925.905	27.9.1957
£ 30.900	
£ 61.800	
£ 49.130	

Car found ☒ Lit ☒

Donkey Boiler Fee

Travelling Expenses (if any) £ 49.130

Per Tex 3%

Committee's Minute

Assigned +LMC (With Tons! End!)

ES SPS OF TS CL } 8.57

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation



"ADRIANA AUGUSTA"

C.R.D.A. YARD NO. 1823

TURBINES NOS. 299 - 301

*Johnson*