

Report on Steam Turbine Machinery. No. 25391

Rpt. 4a. Received at London Office _____
 Date of writing Report 29th Sept., 1960 When handed in at Local Office 29/9/1960 Port of Genoa
 No. in Survey held at Genoa & La Spezia Date, First Survey 11/7/57 Last Survey 13/7/1960
 Reg. Book _____ (Number of Visits 162)

on the ~~XXXX~~ ~~XXXX~~ ~~XXXXXX~~ Screw Vessel "CRISTINA D'AMICO" Tons Gross 20700 (provisional)
 Net _____
 Built at La Spezia-Muggiano By whom built S.A. Ansaldo-Cantieri Muggiano Yard No. 1540 When built 1960
 Engines made at Genoa-Sampierdarena By whom made S.A. Ansaldo-Stab. Meccanico Engine No. 1643 When made 1959
 Boilers made at Genoa-Sampierdarena By whom made S.A. Ansaldo-Stab. Meccanico Boiler No. 6314 When made 1959
 Shaft Horse Power } Maximum 16,000 at 114 RPM
 } Service 14,500 at 110 RPM Owners: "ORTIGIA" S.p.A. di Navigazione Port belonging to Palermo
 M.N. 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.

STEAM TURBINE ENGINES, &c.—Description of Engines. TWO steam turbines - double reduction geared to one propeller shaft.

No. of Turbines Ahead TWO ~~XXXXXX~~ to ONE propelling shafts. No. of primary pinions to each set of reduction gearing TWO
 Astern ONE ~~XXXXXXXXXXXXXXXXXXXX~~ double reduction geared
 direct coupled to { Alternating Current Generator - phase - periods per second } rated - Kilowatts - Volts at - revolutions per minute;
 { Direct Current Generator }
 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	One impulse wheel, with one row of blades.	-	-	Two impulse wheels with two rows of blades each.
Reaction Blading	Three	-	Double flow.	-
No. of rows				
No. of stages				
No. of rows in each stage	7 - 8 - 9		16 rows in each flow	

Shaft Horse Power at each turbine H.P. 7760 ✓ I.P. - Revolutions per minute, at full power, of each Turbine Shaft H.P. 5232 ✓ I.P. -
 L.P. 8240 ✓ (HP 283,540mm. ✓) (1556,45mm. ✓) 1st reduction wheel 953,2 ✓
 Rotor Shaft diameter at journals H.P. 125 mm. ✓ I.P. - L.P. 3449 mm. ✓ main shaft 114 ✓
 I.P. - Pitch Circle Diameter { 1st pinion 1st reduction wheel (1375,47mm. ✓) Width of Face { 1st reduction wheel 2x290 mm. ✓
 L.P. 225 mm. Diameter { 2nd pinion 422,8946mm. main wheel 4120,922mm. ✓ main wheel 2x490 mm. ✓
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion (HP: 465 mm. ✓) 1st reduction wheel (HP & LP 510 mm. ✓)
 2nd pinion 780 mm. ✓ main wheel 980 mm. ✓
 QUILL HP: 156 mm. in body
 Shafts, diameter ~~XXXXXX~~ 230 mm. at coupling. External HP 170mm. ✓ 370mm. with 1st (HP: 269, D70mm. ✓)
 Pinion Shafts, diameter at bearings Internal LP 200mm. ✓ 241mm diameter at bottom of pinion teeth LP: 365, 595mm. ✓
 Wheel Shafts, diameter at bearings { 1st. 240 mm. ✓ Wheel rim 1st. welded Generator Shaft, diameter at bearings -
 main 580 mm. ✓ and shaft main welded Propelling Motor Shaft, diameter at bearings -
 Intermediate Shafts, diameter as per rule as approved Thrust Shaft, diameter at collars as per rule as approved
 as fitted 504 mm. ✓ as fitted 480 mm. ✓

Tube Shaft, diameter as per rule as approved Screw Shaft, diameter as fitted 572 mm. ✓ Is the ~~XXXX~~ shaft fitted with a continuous liner { yes.
 as fitted - as fitted -
 Bronze Liners, thickness in way of bushes as per rule as approved Thickness between bushes as per rule as approved Is the after end of the liner made watertight in the
 as fitted 29 mm. as fitted 23 mm. propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

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 no If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 2570 mm.
 Propeller, diameter 6300 mm. Pitch 5335 mm. No. of Blades four State whether Moveable solid Total Developed Surface 16,4 square feet
 If 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

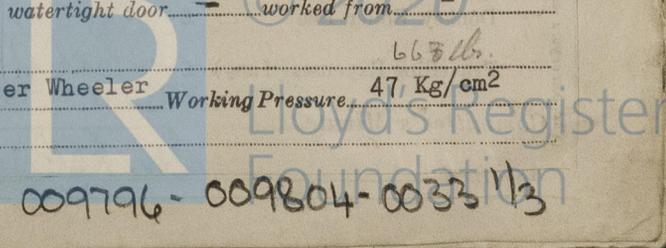
Condenser yes No. of Turbines fitted with astern wheels One (LP) Feed Pumps { No. and size two = 85 tons/hrs. each
 How driven steam turbine driven
 Pumps connected to the Main Bilge Line { No. and size 2 = 100 tons/hr. 1 = 40 tons/hr in E.R. = 1 = 100 tons/hrs in fwd. pump room
 How driven E.D. steam D. steam d.

Ballast Pumps, No. and size 1 = 100 tons/hr. in E.R. (ED) Lubricating Oil Pumps, including Spare Pump, No. and size 2 = 126 tons/hr. = ED
 Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions, No. and size: - In Engine
 and Boiler Rooms 1 = 150 mm. = 4 = 100 mm. = 2 = 80 mm. diam. In Pump Room Fwd. = 1 = 175 mm. = 1 = 80 mm. dia.
 In ~~XXXX~~, &c. Cargo pump room = 1 = 100 mm.; 2 = 80 mm. dia.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 = 500 mm. dia. Direct Bilge Suctions to the Engine and/or Boiler Room
 Bilges, No. and size 2 = 150 mm. Are all the Bilge Suction pipes in Holds and 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 shell plating Are they fitted with Valves or Cocks valves and cocks
 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 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 - Is it fitted with a watertight door - worked from -

BOILERS, &c.—Total Heating Surface of Boilers 2418 sq.mt. 26027 ft² 667 lbs.
 Is Forced Draught fitted yes No. and Description of Boilers TWO—two drums Foster Wheeler Working Pressure 47 Kg/cm²
 Is a Report on Main Boilers now forwarded? yes.



Gen. Cert M4463

Is a Donkey Boiler fitted? (no) If so, is a report now forwarded? (no) Plans: Are approved plans forwarded herewith for Shafting, Main Boilers, Auxiliary Boilers, Donkey Boilers. Superheaters, General Pumping Arrangements, Oil Fuel Burning Arrangements, Geared turbines situated aft. Have torsional vibration characteristics of system been approved. Date of approval.

SPARE GEAR.

Has the spare gear required by the Rules been supplied? State the principal additional spare gear supplied. One solid cast iron propeller.

ANSALDO S.A. STABILIMENTO MECCANICO

[Signature]

[Signature]

Manufacturer.

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 fitting sea connections. Main boiler safety valves adjusted. Rotor shaft, Material and tensile strength. 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. Wheel rim, 1st Reduction Wheel Shaft, Material and tensile strength. Wheel shaft, Material, Intermediate shafts, Material, Screw shaft, Material, Date of test. Is the flash point of the oil to be used over 150°F. Full description of Fire Extinguishing Apparatus fitted in machinery spaces. Is the vessel fitted for carrying oil as cargo. 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. The machinery of this vessel, has been constructed under special survey of tested materials and is in accordance with the approved plans, Secretary's letters and Rules requirements.

General Remarks. (State quality of workmanship, opinions as to class, etc.) The machinery of this vessel, has been constructed under special survey of tested materials and is in accordance with the approved plans, Secretary's letters and Rules requirements. The materials and workmanship are good. The complete installation has been tried under working condition at full power and found satisfactory. Afterward the fabricated LP turbine casing, gear case and gear wheels, have been specially examined and found, as far as could be seen sound and free from defects. The vessel is worthy to be classed in the Society's Register Book with the Records: +LMC 7/60 - CL and notation "Fitted for oil fuel FP above 150°F - "Two steam turbines D.R.geared to propeller shaft". The vessel is fitted with a L.P. steam/steam generator which has been examined under steam and its safety valves adjusted as stated on the attached sheet, and an accumulation test satisfactorily carried out.

FE, FEE DURING CONSTRUCTION: Lt 673.750 = Lt 15% = 573.688. R.T. (See note dated 10/10/59). The amount of Entry Fee 41.583.750. Special ... Donkey Boiler Fee ... Travelling Expenses (if any) ... Committee's Minute ... Assigned ... See Rpt. 1.

[Signature] Engineer Surveyor to Lloyd's Register of Shipping.

ANSALDO YARD No.1540. "CRISTINA D'AMICO"

IDENTIFICATION MARKS

Table with columns for HP TURBINE, LP TURBINE, and various components like TURBINE ROTOR, 1st RED. PINION, RIM, 1st RED. GEAR WHEELS, SHAFT, QUILL SHAFT, 2nd RED. PINION, MAIN GEAR WHEEL, THRUST COLLAR, INTERMEDIATE SHAFT, SCREW SHAFT, BRONZE PROPELLER, SPARE SCREW SHAFT, SPARE PROPELLER. Includes identification marks like LLOYD'S GEN. S.6007, W.G.13-8-59, etc.

Combustible steam : 25 Kg/cm² Produced steam : 9,5 Kg/cm²

Please See Continuation Sheet

on the ~~SS~~/M.S. "CRISTINA D'AMICO" Ansaldo Muggiano Yard No. 1540

Fire extinguishing arrangements.

In Engine Room:

4 S.W. hydrants with 65 mms. hoses.

7 9 liters froth extinguishers.

2 4 Kgs. CO2 extinguishers.

1 136 liters froth extinguishers.

Fixed full flooding CO2 system installation and steam smothering installation both operated from outside the E.R.

One box of sand and scoop.

In the boiler room:

2 S.W. hydrants with 65 mms. hoses.

1 45 liters froth extinguishers.

1 136 " " "

5-9 " " "

Fixed full flooding CO2 system installation and steam smothering installation both operated from outside.

Two boxes of sand and scoops.

Forward pump room:

1 S.W. hydrant with 65 mms hose.

2 9 liters froth extinguishers.

Fixed steam smothering installation operated from deck.

After cargo pump room:

2 9 liters froth extinguishers (entrances)

1 45 " " "

Fixed steam smothering installation operated from outside.