

Rpt. 4a.

Report on Steam Turbine Machinery.

No. 639

Received at London Office 26 June 1954

Date of writing Report 28/9/ 1954 When handed in at Local Office 28/9/ 1954 Port of ROUEN

No. in Survey held at Le Bourget (Seine) Date, First Survey 3.3.54 Last Survey 7.7.54 19

Reg. Book "Sphigeneia" (Number of Visits 8)

on the Tons Gross Net

Built at La Ciotat By whom built Chantiers de la Ciotat Yard No. 175 When built

Engines made at La Sayne By whom made Forges & Ch. de la Mediterranee Engine No. 6161/MT When made

ring & L.P. Turbine Order

Boilers made at Le Bourget (Seine) By whom made Cie. Electro Mecanique Boiler No. 2262103 When made 1954

Shaft Horse Power at Full Power 7800/8200 Owners Port belonging to

Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines Ahead ~~Discontinued~~ to propelling shafts. No. of primary pinions to each set of reduction gearing TWO

Astern ~~Single reduction geared~~ 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
Reaction Blading	No. of stages			3	1
	No. of rows in each stage			5/7/8	4

Shaft Horse Power at each turbine H.P. 3600 ✓ I.P. 4200 ✓ L.P. 4800 ✓

Revolutions per minute, at full power, of each Turbine Shaft H.P. 4800 ✓ I.P. 3100 ✓ L.P. 100 ✓

Rotor Shaft diameter at journals H.P. 160 ✓ I.P. 160 ✓ L.P. 160 ✓

Pitch Circle Diameter 1st pinion H.P. 223,121 I.P. 315,635 L.P. 1583,617

2nd pinion H.P. 498,842 I.P. 3401,828 L.P. 547,341

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 470 1st reduction wheel 580

2nd pinion 750 main wheel 940

Flexible Pinion Shafts, diameter at bearings H.P. 160 I.P. 200 L.P. 200

Pinion Shafts, diameter at bearings H.P. 155 I.P. 200 L.P. 200

Wheel Shafts, diameter at bearings 1st 200 main 500

diameter at wheel shroud, 1st 1480 main 3280

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted 500

Tube Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted

Is the tube screw 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 made 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 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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbines exhaust direct to the

Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Pumps connected to the Main Bilge Line No. and size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room In Pump Room

In Holds, &c. Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers 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

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

BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers Working Pressure

Is Forced Draft fitted No. and Description of Boilers

Is a Report on Main Boilers now forwarded?

Is ☒ a Donkey ☐ an Auxiliary Boiler fitted? ☐ 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 12.4.54 Main Boilers ☐ Auxiliary Boilers ☐ Donkey Boilers ☐
(If not, state date of approval) ☐
Superheaters ☐ General Pumping Arrangements ☐ Oil Fuel Burning Arrangements ☐
Geared turbines ☐ Have torsional vibration characteristics of system been approved? ☐ Date of approval 18/3/54 for 100 + 103 hp
situated aft. ☐ ? Gear hammer.

SPARE GEAR.

Has the spare gear required by the Rules been supplied for L.P. Turbine - Yes
State the principal additional spare gear supplied -

The foregoing is a correct description,

C^e Electro-Mécanique
ÉTABLISSEMENT LE BOURG
Département MARINE
Manufacturer.

Dates of Survey while building ☐ During progress of work in shops - 3.3.54, 8.3.54, 23.3.54, 1.4.54, 27.4.54, 4.5.54, 24.6.54, 7.7.54
☐ During erection on board vessel - -
Total No. of visits 8

Dates of Examination of principal parts—Casings 27.4.54, 24.6.54 Rotors 4.5.54, 24.6.54 Blading 4.5.54 Gearing 3.3. & 23.3.54

Wheel shaft 1.4.54 Thrust shaft 1.4.54 Intermediate shafts ☐ Tube shaft ☐ Screw shaft ☐

Propeller ☐ Stern tube ☐ Engine and boiler seatings ☐ Engine holding down bolts ☐

Completion of fitting sea connections ☐ 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 Forged Steel (Electric Furnace) 56.8 Kg/mm² Identification Mark 1118 R.F

Flexible Pinion Shaft, Material and tensile strength " " " " 81.1 & 82.8 " Identification Mark HP V545, LP V546

Pinion shaft, Material and tensile strength Electric Steel, 84.5, 83.1, 81.0, 89.0 Kg/mm² Identification Mark V607, V609, V638, V639
for HP & LP 1st & 2nd reduc. respectively; Chemical analysis ☐

If Pinion Shafts are made of special steel state date of approval of chemical analysis, physical properties and heat treatment 12.4.54

1st Reduction Wheel Shaft, Material and tensile strength As for flexible pinion shafts Identification Mark as above

Wheel shaft, Material Forged Steel Identification Mark EP 412 Thrust shaft, Material ☐ Identification Mark ☐

Intermediate shafts, Material ☐ Identification Marks ☐ Tube shaft, Material ☐ Identification Marks ☐

Screw shaft, Material ☐ Identification Marks ☐ Steam Pipes, Material ☐ Test pressure ☐

Date of test ☐ Is an installation fitted for burning oil fuel ☐

Is the flash point of the oil to be used over 150°F ☐ Have the requirements of the Rules for the use of oil as fuel been complied with ☐

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 ☐

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 ☐ If so, state name of vessel ☐

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

The gearing and shafting detailed in the foregoing and L.P. Turbine have been built under special

Survey at the works of Cie. Electro-Mécanique, Le Bourget, Seine, in accordance with the Society's

Rules, approved plans and the Secretary's letters. The workmanship is good.

The above mentioned parts have been dispatched to Forges et Chantiers de la Méditerranée at La

Seyne, for subsequent installation in Chantiers de la Ciotat, Yard No. 175.

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The amount of Entry Fee ... £rs. 160.750. When applied for ☐
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received
Travelling Expenses (if any) £ 32.000. 19

FRIDAY 25 NOV 1955

(The Committee's Minute)

Assigned

Sac Rpt. 4a

E. J. Green
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation