

Report on Steam Turbine Machinery.

No. 56262

Rpt. 4a.

Received at London Office

CARDIFF

Date of writing Report 10th Nov. 1918 When handed in at Local Office 10th Nov. 1918 Port of

No. in Survey held at CARDIFF

Date, First Survey 26. 2. 48 Last Survey 3. 11. 1948

Reg. Book

(Number of Visits 10)

73715 on the S.S. "ST JESSICA"

Tons { Gross 5420
Net 3322

Built at HOG ISLAND PA By whom built AMERICAN INTERNATIONALS Bldg. No. 1491 When built 1920

Engines made at SCHENECTADY NY By whom made GENERAL ELECTRIC CO Engine No. 13350 When made 1920

Boilers made at BAYONNE NJ By whom made BABCOCK & WILCOX CO Boiler No. 902 When made 1920

Shaft Horse Power at Full Power 2500 Owners ST QUENTIN SHIPPING CO LTD Port belonging to NEWPORT

Nom. Horse Power as per Rule 525 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which Vessel is intended DRY & PERISHABLE CARGOES

STEAM TURBINE ENGINES, &c.—Description of Engines ONE CURTIS IMPULSE GEARED TURBINE

No. of Turbines } Ahead ONE Direct coupled, single reduction geared } to ONE propelling shafts. No. of primary pinions to each set of reduction gearing ONE
Astern }

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 Direct Current Generator

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.		
	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	75-1.25	2'-11 1/2"	2							225-1.5	3'-3"	2
2nd "	.625	3'-0"	1							3375	3'-3"	1
3rd "	1.25	3'-10 1/2"	1									
4th "	2.5	4'-0"	1									
5th "	6.0	4'-0"	1									
6th "												
7th "												
8th "												
9th "												
10th "												
11th "												
12th "												

Shaft Horse Power at each turbine H.P. 2500 I.P. - L.P. - Revolutions per minute, at full power, of each Turbine Shaft H.P. 3234 1st reduction wheel 425 main shaft 80

Rotor Shaft diameter at journals H.P. 8" I.P. - L.P. - Pitch Circle Diameter 1st pinion 7.612 1st reduction wheel 57.222 2nd pinion 1.442 main wheel 54.058 Width of Face 1st reduction wheel 7 1/8" main wheel 20.44"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 13 1/2" 1st reduction wheel 1 1/4" 2nd pinion 3 1/8" main wheel 3 1/8"

Flexible Pinion Shafts, diameter at bearings 1st 10" 2nd 10" Pinion Shafts, diameter at bearings External 1st 2" 2nd 10" Internal 1st 2" 2nd 10" diameter at bottom of pinion teeth 1st 7" 2nd 10"

Wheel Shafts, diameter at bearings 1st 14" 2nd 14" Generator Shaft, diameter at bearings 1st - 2nd - Propelling Motor Shaft, diameter at bearings 1st - 2nd -

Intermediate Shafts, diameter as per rule 12.48" as fitted 12.625" Thrust Shaft, diameter at collars as per rule 13.25" as fitted 13.25"

Tube Shaft, diameter - Screw Shaft, diameter as per rule 14.5" as fitted 14.5" Is the shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per rule 15/16" as fitted 15/16" Thickness between bushes as per rule 5/8" as fitted 5/8" Is the after end of the liner made watertight in the 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 YES

If two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft YES

Propeller, diameter 17'-0" Pitch 14'-25" No. of Blades 4 State whether Moveable NO Total Developed Surface 91.48 square feet. If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES

Condenser No. of Turbines fitted with astern wheels ONE Feed Pumps No. and size 2-10" x 2 1/2" x 12" 8-10" x 10" x 24" How driven STM/DRIVEN

Pumps connected to the Main Bilge Line No. and size 2-10" x 2 1/2" x 12" 1-10" x 13" x 12" How driven STM/DRIVEN

Ballast Pumps, No. and size 1-10" x 12" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size 2-7 1/2" x 7 1/4" x 10"

Are two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 2-3 1/2" (P. S. AFT. E/R) THRUST RECESS 3 1/2" BOILER RM 2-3 1/2" In Pump Room

In Holds, &c. N° 1-2-3 1/2" - 1-2 1/2" N° 2-2-3 1/2" N° 3-2-3 1/2" N° 4-1-3 1/2" N° 5-1-3 1/2" TUNNEL WELL 1-3 1/2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-10" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-3 1/2" (S/SIDE) 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 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 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 2-3 1/2" BILGE SUCTIONS P.S. N° 1 & 2 HOLDS

What pipes pass through the deep tanks 1-2 1/2" Suctions from Fwd. Well 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 YES Is it fitted with a watertight door YES worked from

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 8706 SQUARE FEET
Is Forced Draft fitted No No. and Description of Boilers 3-BABCOCK & WILCOX WATER TUBE Working Pressure 200 lbs./sq. in.
Is a Report on Main Boilers now forwarded? YES
Is a Donkey Boiler fitted? No If so, is a report now forwarded?
(an Auxiliary)
Is the donkey boiler intended to be used for domestic purposes only?
Plans. Are approved plans forwarded herewith for Shafting No Main Boilers No Auxiliary Boilers NONE Donkey Boilers NONE
(If not, state date of approval)
Superheaters OUT OF USE General Pumping Arrangements No Oil Fuel Burning Arrangements No

SPARE GEAR.

Has the spare gear required by the Rules been supplied? YES

State the principal additional spare gear supplied.

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
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 Completion of pumping arrangements Boilers fixed Engines tried under steam
Main boiler safety valves adjusted 3. 11. 48 Thickness of adjusting washers PORT BLR 11/16 CENTRE BLR 3/8 STARBOARD BOILER 5/8
Rotor shaft, Material and tensile strength Identification Mark
Flexible Pinion Shaft, Material and tensile strength Identification Mark
Pinion shaft, Material and tensile strength Identification Mark
1st Reduction Wheel Shaft, Material and tensile strength Identification Mark
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 Test pressure
Date of test 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 NO 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 YES If so, state name of vessel SS "QUISTCONCK"

General Remarks. (State quality of workmanship, opinions as to class, &c.) THE MACHINERY OF THIS VESSEL WAS
CONSTRUCTED UNDER THE SURVEY AND TO CLASS OF THE AMERICAN BUREAU OF SHIPPING.
THE SCANTLINGS HAVE BEEN CHECKED AND GENERAL ARRANGEMENTS EXAMINED AND FOUND TO
CONFORM WITH RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE SATISFACTORY AND
MACHINERY ELIGIBLE IN MY OPINION TO BE CLASSED WITH RECORD OF L.M.C. 11/48 AS
PER REPORT 8 ATTACHED

The amount of Entry Fee, £ : :
Special 11. 48 £ : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for 19
When received 19

Thomas Donaldson
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 28 JAN 1948

Committee's Minute

Assigned

L.M.C. 11. 48 subject

CERTIFICATE WRITTEN.



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Foundation