

N. YK.
No. DE 619545 1.

Received at London Office

STEAM TURBINE ENGINES, &c.—Description of Engines. Cross compound geared turbines.

No. of Turbines Ahead.....two.....Direct coupled,
Astern.....one.....single reduction geared } to one propelling shaft. No. of primary pinions to each set of reduction gearing...two.....
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.....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.
Impulse	{ No. of rows	2.	NIL	0.	2 stages
Blading		22.		21.	3 rows - 1 st stage 2 rows - 2 nd stage.
Reaction	{ No. of stages				0.
Blading					
	{ No. of rows in each stage	1.		1.	0.

Shaft Horse Power at each turbine { H.P. 6150 ✓
I.P. _____
L.P. 7450 ✓

Revolutions per minute, at full power, of each Turbine Shaft { H.P. 11,308"
I.P. 10,300"
L.P. 10,300"

H.P. 4773 1st reduction wheel 800
I.P. _____
L.P. 2673 main shaft 109

Rotor Shaft diameter at journals	H.P. 5" ✓	Pitch Circle Diameter	1st pinion	1st reduction wheel	69.304	Width of Face	1st reduction wheel	21 1/4
	I.P. —		2nd pinion	main wheel	166.554"		main wheel	40"
	L.P. 9" ✓							

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings

1st pinion	$= 35\frac{1}{2} = 36$	1st reduction wheel	$30\frac{1}{4}$
2nd pinion	$38\frac{3}{4}$	main wheel	$30\frac{1}{4}$

Flexible Pinion Shafts, diameter

1st.....
2nd.....

Pinion Shafts, diameter at bearings

1st.....
2nd.....

External

1st { LP 9" ✓
Internal { — 2nd { 18" ✓

diameter at bottom of pinion teeth

1st.....
2nd.....

1st 18" ✓

1st 19.1875" Generator Shaft, diameter at bearings..... ✓

Wheel Shafts, diameter at bearings { 1st
main $22\frac{1}{2}$ " ✓ diameter at wheel shroud, { main $25\frac{1}{8}$ " Propelling Motor Shaft, diameter at bearings ✓
as per rule 20 " as per rule
Thrust Shaft, diameter at collars as per rule

Intermediate Shafts, diameter 26 1/2" ✓ as fitted.....
 as per rule.....
 Tube Shaft, diameter 21.83" ✓ as per rule.....
 as fitted.....
 Screw Shaft, diameter 26" ✓ as fitted.....
 as per rule.....
 Thrust Shaft, diameter at collars 22 1/2" ✓ as fitted.....
 Is the $\left\{ \begin{array}{l} \text{tube} \\ \text{screw} \end{array} \right\}$ shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as fitted..... **.91"** as per rule..... **.68"**
as fitted..... **1.725"** Thickness between bushes as fitted..... **.875"** Is the after end of the liner made watertight in the
one length

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 ✓

Is the liner fitted in the shaft tunnel or protected between the liners yes ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube yes ✓

shaft No. If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 8'-10"✓
Propeller diameter R.H. solid 21'-0" Pitch 16'-6" No. of Blades 6 State whether Moveable No Total Developed Surface 195.5 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. or I.P. Turbines exhaust direct to the Condenser. Yes

No. of Turbines fitted with astern wheels one LP Feed Pumps { No. and size. 3-300 gals/min (1-6 stage & 2-1 stage steam turbine)

Pumps connected to the Main Bilge Line { No. and size 2-5" rotary ✓
How driven electric motor ✓

Ballast Pumps, No. and size 2-5" rotary ✓ Lubricating Oil Pumps, including Spare Pump, No. and size 2-6" rotary
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 1-3", 2-3½", 1-4", 1-1½". In Pump Room =
In Holds, &c. Fore hold 2-3" fore'd pump room 1-3" cargo pump room 2-3"
Main Water & Drainage Bilge Suctions No. and size One - 18" Independent Power Pump Direct Suctions to the Enaine Room

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. chests Are they fitted with Valves or Cocks. valves
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..... Are the Blow Off Cocks fitted with a spigot and brass covering plate. ✓ What pipes pass through the bunkers. None ✓ 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. Yes ☒

Is there 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 2. (Letter for record) Total Heating Surface of Boilers 21,130 sq. ft. ☒

Is Forced Draft fitted Yes No. and Description of Boilers 2-D type Foster Wheeler Working Pressure 675 lbs./sq. in.

Is a Report on Main Boilers now forwarded? Yes

As a Report on Main Boners Now 181 with 182 Family

If not, state whether, and when, one will be sent?

43.

Is a Report also sent on the Hull of the Ship?

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worked from ✓

ing Pressure. 675 lbs/sq"

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008217-003221-01

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 *Yes.* Main Boilers ☒ Auxiliary Boilers ☒ Donkey Boilers ☒
 (If not, state date of approval)
 Superheaters ☒ General Pumping Arrangements ☒ Oil Fuel Burning Arrangements ☒
 Geared turbines situated aft. Have torsional vibration characteristics of system been approved *Yes.* Date of approval

SPARE GEAR.

Has the spare gear required by the Rules been supplied?
 State the principal additional spare gear supplied *Spare propeller (housed ashore, stated by arrangement)*
 one complete set of shell bearings & thrust shoes.
 six H.P. & eleven L.P. casing joint bolts
 six bearing cap bolts
 one impeller shaft and impeller for main circulating pump.
 twelve boiler tube stoppers
 one set oil fuel nozzles.

The foregoing is a correct description.

Dates of Survey while building { During progress of work in shops - - } *continuous*
 { During erection on board vessel - - }
 Total No. of visits

Dates of Examination of principal parts—Casings *April 19th 54.* Rotors *April 19th 54* Blading *May 10th 54* Gearing *Sept.*
 Wheel shaft ☒ Thrust shaft *Sept. 7th 54.* Intermediate shafts *Sept 7th* Tube shaft ☒ Screw shaft *May*
 Propeller *May 10th 54.* Stern tube *May 27th 54.* Engine and boiler seatings *June 10th 54.* Engine holding down bolts *Sept.*
 Completion of fitting sea connections *June 11th* Completion of pumping arrangements *Sept 8th* Boilers fixed *June 17th* Engines tried under steam
 Main boiler safety valves adjusted
 Rotor shaft, Material and tensile strength *H.P. A.H. steel 90,000 lbs. elong. 21% reduction 45% Heat No. 27C33.* Identification Mark *29C66*
 Flexible Pinion Shaft, Material and tensile strength *please see Cleveland report no. 1695.* 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 *forged steel* Identification Marks *81M652 B1* Tube shaft, Material Identification Marks
 Screw shaft, Material *forged steel* Identification Marks *Heat No. 84 N 010 A1.* Steam Pipes, Material Test pressure
 Date of test
 Is the flash point of the oil to be used over 150°F
 Is the vessel (not being an oil tanker) 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
 General Remarks. (State quality of workmanship, opinions as to class, &c.) *The main H.P. & L.P. turbines have*
 built under special survey in accordance with approved plans.
 The workmanship & materials are good throughout, the hydraulic tests
 satisfactory. On completion, the turbines were run in shop at 15%
 their designed speed and found satisfactory.
 The above described machinery with reduction gearing have been fitted in
 vessel, examined & tested under working conditions and found to be
 satisfactory, in my opinion eligible to have the notation + L.M.C. 10.
 T.S. (CL) in the Register Book.

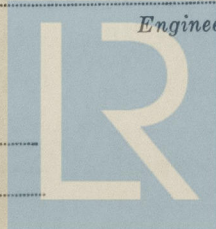
Certificate (if required) to be sent to the Committee's Minute (The Surveyors are requested not to write on or below the space for Committee's Minute.)

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

Committee's Minute *NEW YORK NOV 17 1954*
 Assigned *+ LMC 10.54*

L.P. Holmes

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

NOTE.—The words which do not apply should be deleted. If not, state whether, and when, one will be sent? If not, state whether, and when, one will be sent?