

Auxiliary

REPORT ON STEAM TURBINE MACHINERY. No. 3677

Received at London Office 30 JUL 1942

1a. Writing Report 19 When handed in at Local Office 19 Port of Boston, Massachusetts

Survey held at Lynn, Mass. Date, First Survey 16 DEC. 40 Last Survey 21 APRIL 1941

Book. Hull No. 4358 5/5 "COLINA" (Number of Visits 4)

at Sparrows Point, Md. By whom built Bethlehem Steel Company Yard No. 4358 When built 1941

Machinery made at Lynn, Mass. By whom made General Electric Co. Engine No. 45983 When made 1941

Boilers made at By whom made Boiler No. When made

Horse Power at Full Power Owners Port belonging to

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

Use for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines One turbine connected to 300 K.W. Generator through Generators single reduction gears.

Number of Turbines ~~XXXXX~~ One ~~XXXXX~~ single reduction geared to ~~XXXXX~~ No. of primary pinions to each set of reduction gearing One

Coupled to ~~XXXXX~~ Alternating Current Generator ~~XXXXX~~ Direct Current Generator rated 300 Kilowatts 240 Volts at 1200 revolutions per minute;

Applying power for driving Propelling Motors, Type Auxiliary Machinery and Electric Lighting

Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	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 Wheel	5"	.96"	25	5"	25.96"	2						
EXPANSION	50"	1.03"	25	5"	25.90"	2						
"	1.374"	2.37"	26	6.5"	26.76"	2						
"												
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Horse Power at each turbine { H.P. 5636 1st reduction wheel I.P. I.P. main shaft 1200 L.P. L.P.

Revolutions per minute, at full power, of each Turbine Shaft

Shaft diameter at journals { H.P. 3-1/2" Pitch Circle Diameter 1st pinion 5.4414" 1st reduction wheel I.P. I.P. main wheel 25.5585" Width of Face 1st reduction wheel L.P. L.P. 2nd pinion main wheel 7-1/2"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6-5/8" & 7-5/8" 1st reduction wheel I.P. I.P. main wheel 6-3/4" 2nd pinion main wheel

Pinion Shafts, diameter at bearings { 1st 4" 2nd diameter at bottom of pinion teeth 1st 5.0664" I.P. I.P. 2nd

Shafts, diameter at bearings { 1st 25.827" Generator Shaft, diameter at bearings 3-1/2" I.P. I.P. main diameter at wheel shroud, outside of gear main Propelling Motor Shaft, diameter at bearings

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

Shaft, diameter as per rule Screw Shaft, diameter as per rule Is the tube screw shaft fitted with a continuous liner as fitted

Liners, thickness in way of bushes as per rule Thickness between bushes as per rule Is the after end of the liner made watertight in the stern tube as fitted

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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

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

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

Are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the stern

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

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

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

Independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps

No. and size:—In Engine and Boiler Room In Pump Room

and, etc.

Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

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

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

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

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

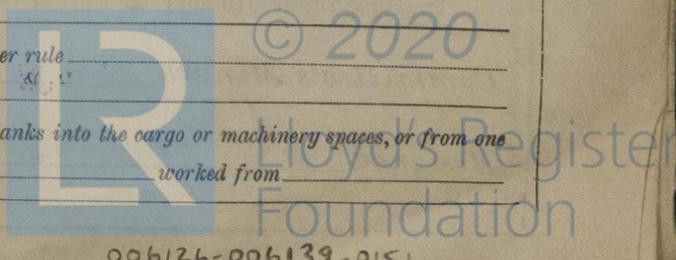
Each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

Do they pass through the bunkers How are they protected

Do they pass through the deep tanks Have they been tested as per rule

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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? If so, is a report now forwarded?

Is { a Donkey } Boiler fitted? { an Auxiliary }

Is the donkey boiler intended to be used for domestic purposes only

Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied State the principal additional spare gear supplied Two gear and two pinion bearings, one thrust bearing, fourteen coupling bolts, six turbine casing bolts. One Turbine bearing.

PER SHIP

The foregoing is a correct description, General Electric Co. J.P. Polan

Dates of Survey of Survey while building { During progress of work in shops -- } Dec. 16, 1940 Feb. 3, April 19, 21, 1941 { During erection on board vessel --- } 4 visits

Dates of Examination of principal parts—Casings Apr. 21, 1941 Rotors Apr. 21, 1941 Blading Apr. 21, 1941 Gearing Apr. 21, 1941

Wheel shaft Apr. 21, 1941 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 Thickness of adjusting washers Rotor shaft, Material and tensile strength O.H. Steel 96,500 lbs. per sq. in. Identification Mark 405 21-4-

Flexible Pinion Shaft, Material and tensile strength Pinion shaft, Material and tensile strength O.H. Steel 112,000 lbs. per sq. in. Identification Mark 405 21-4-

1st Reduction Wheel Shaft, Material and tensile strength Wheel shaft, Material O.H. Steel Identification Mark 405 21-4-41 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 geared turbine electric generator has been built under Special Survey, tested under steam at full load and the oil governors adjusted to trip at 1340 R.P.M. The quality of workmanship and materials is good. The units have been forwarded to Bethlehem Steel Company, Sparrows Point, Md.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £ \$ 75.00	:	:	14-11-41
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £ 2.50	:	:	19

Thomas Barrie
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK JUL 1 1942
Assigned See First Entry Report.



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