

REPORT ON STEAM TURBINE MACHINERY. No. 3688

Received at London Office 25 APR 1942

Date of writing Report Dec. 29, 1941 When handed in at Local Office 19 Port of Boston, Massachusetts

No. in Survey held at Lynn, Mass. Date, First Survey June 24, 1941 Last Survey Dec. 5, 1941 Reg. Book.

on the Hull Nos. 1488-89-90-91 5/5 "Sinclair H.C." (Number of Visits 4)

Built at Quincy, Mass. By whom built Bethlehem Steel Co. Yard No. 1488-89-90-91 When built 1941

Engines made at Lynn, Mass. By whom made General Electric Engine No. 48057 When made 1941

Boilers made at By whom made Boiler No. When made

Shaft Horse Power at Full Power Owners Port belonging to

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

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines One turbine connected to 200 K.W. Generator thru Generators single reduction gears. No. of Turbines one each set single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing One

Direct coupled to Direct Current Generator rated 200 Kilowatts 240 Volts at 1200 revolutions per minute; for supplying power for driving Propelling Motors, Type Auxiliary Machinery and Electric lighting

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 Impulse	500"	.960"	25.5"	25.96"	2							
2nd	504"	1.025"	25.56"	26.18"	2							
3rd	873"	1.045"	25.9"	26.6"	2							
4th												
5th												
6th												
7th												
8th												
9th												
10th												

Shaft Horse Power at each turbine { H.P. 5614 1st reduction wheel I.P. L.P. 1200 main shaft

Motor Shaft diameter at journals { H.P. 3" Pitch Circle Diameter 1st pinion 4.6" 1st reduction wheel 2nd pinion main wheel 21.7" Width of Face 1st reduction wheel main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 5-1/2" & 5-1/2" 1st reduction wheel 2nd pinion main wheel 5-1/2" & 5-1/2"

Visible Pinion Shafts, diameter at bearings { 1st 2-1" x 3-11/2" 2nd 2" diameter at bottom of pinion teeth { 1st 4.356" 2nd

Wheel Shafts, diameter at bearings { 1st 2.5" diameter outside of gear { 1st 21.88" Generator Shaft, diameter at bearings 3" Propelling Motor Shaft, diameter at bearings

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

Propeller 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 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

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 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. Single Screw, 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 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 two 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 Holds, &c.

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

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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

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

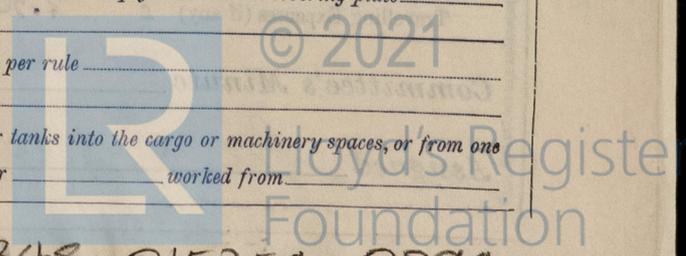
they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

at pipes pass through the bunkers How are they protected

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

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

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

Is Forced Draft fitted _____ No. and Description of Boilers _____ Working Pressure _____

Is a Report on Main Boilers now forwarded? _____

Is { a Donkey } 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 _____ Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
(If not state date of approval)

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 (2) L.S. Bearings (2) Pinion Bearings (2) Thrust Bearings
(8) H.S. Coupling bolts (8) Drake Locknuts for H.S. Coupling bolts (5) 3/4" Bolts for Hor. Casing
Joint (2) 3/4" bolts for Hor. Casing Joint.

PER SHIP

The foregoing is a correct description,

General Electric Co. J.T. Golau Manufacturer

Dates of Survey while building { During progress of work in shops -- June 24, Aug. 20, Oct. 10, and Dec. 5, 1941
During erection on board vessel ---
Total No. of visits 4 visits

Dates of Examination of principal parts—Casings Dec. 5, 1941 Rotors Dec. 5, 1941 Blading Dec. 5, 1941 Gearing Dec. 5, 1941

Wheel shaft Dec. 5, 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 102,000 lbs. per sq. in. Identification Mark 541 5-12-41

Flexible Pinion Shaft, Material and tensile strength _____ Identification Mark _____

Pinion shaft, Material and tensile strength O.H. Steel 102,000 lbs. per sq. in. Identification Mark 541 5-12-41

1st Reduction Wheel Shaft, Material and tensile strength _____ Identification Mark _____

Wheel shaft, Material O.H. Steel Identification Mark 541 5-12-41 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, Fore River Yard, Quincy, Mass.

The amount of Entry Fee	£	:	:	When applied for,
Special	£	\$ 75.00	:	29-12-1941
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	2.50	:	19

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

Committee's Minute NEW YORK JAN 28 1942

Assigned See N.Y.A. RPT. NO. 42056

