

REPORT ON STEAM TURBINE MACHINERY.

No. 3594

t. 4a.

Received at London Office 20 SEP 1941

Date of writing Report May 26, 1941 When handed in at Local Office 5 July 41 Port of Boston, Massachusetts

To. in Survey held at Lynn, Mass.

Date, First Survey June 20, 1940 Last Survey December 20, 1940

Reg. Book.

(Number of Visits 8)

on the Hulls 208, 209, 210 S/S STANVAC MELBOURNE

Tons { Gross
Net

built at Chester, Pa.

By whom built Sun S. B. Company

Yard No. 208-9-10 When built 1941

Engines made at Lynn, Mass.

By whom made General Electric Co.

Engine No. 47101 When made 1940

Boilers made at Barberton Ohio

By whom made Babcock & Wilcox

Boiler No. 1492 When made 1941

Shaft Horse Power at Full Power 4000

Owners

Port belonging to

Nom. Horse Power as per Rule 1006

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which Vessel is intended

Carrying Petroleum in bulk.

STEAM TURBINE ENGINES, &c.—Description of Engines One Turbine connected to 300 KW generator thru single reduction gears.

No. of Turbines ~~Two~~ One Direct coupled, single reduction geared } to Generators No. of primary pinions to each set of reduction gearing One

Direct coupled to { Alternating Current Generator phase periods per second } rated 300 Kilowatts 240 Volts at 1200 revolutions per minute;

or supplying power for driving Propelling Motors, Type Auxiliary Machinery & Electric Lighting

rated 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	5.51"	25.5"	25.96"									
2nd	5.04"	1.03"	25.5"									
3rd	1.374"	2.37"	26.65"									
4th												
5th												
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												
18th												
19th												
20th												

Shaft Horse Power at each turbine { H.P. 5636 1st reduction wheel
I.P. 1200 main shaft
L.P.

Motor Shaft diameter at journals { H.P. 3 1/2" Pitch Circle { 1st pinion 5.4414" 1st reduction wheel
I.P. 2nd pinion main wheel 25.5585" Width of Face { 1st reduction wheel
L.P. 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
2nd pinion main wheel 6-3/4"

Flexible Pinion Shafts, diameter { 1st 4" Pinion Shafts, diameter at bearings { 1st 25.827" Generator Shaft, diameter at bearings 3 1/2"
2nd 4" 2nd diameter at bottom of pinion teeth { 1st 5.0664"
2nd

Wheel Shafts, diameter at bearings { 1st 4" diameter at wheel shroud { 1st 25.827" Propelling Motor Shaft, diameter at bearings
main Outside of gear { main

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

Crew Shaft, diameter { as per rule Is the { tube } shaft fitted with a continuous liner { as per rule
as fitted as fitted as fitted

Thickness between bushes { as per rule Is the after end of the liner made watertight in the propeller boss { as per rule
as fitted as fitted as fitted

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

other appliance fitted at the after end of the tube shaft { 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

Are 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

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

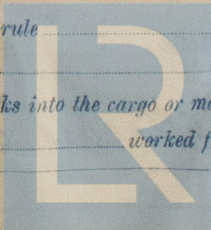
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

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



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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?
{ an Auxiliary }

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles 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. T. Zolan

Manufacture

Dates of Survey { During progress of work in shops -- } June 20, July 26, Sept. 23 - 26, Oct. 11 - 22, 1940 December 19, 20, 1940
{ During erection on board vessel -- }
building { Total No. of visits } Eight

Dates of Examination of principal parts—Casings December 20 Rotors December 20 Blading December 20 Gearing December 20

Wheel shaft December 20 Thrust shaft Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

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 96,000 lbs. per. sq. in. Identification Mark 344 20-12-40

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength " " 104,000 " " " " Identification Mark 344 20-12-40

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

Wheel shaft, Material O.H. Steel Identification Mark 344 20-12-40 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

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 RPM. The quality of workmanship and materials is good. The units have been forwarded to Sun Shipbuilding Company, Chester, Pa.

This generating set has been properly installed on board the vessel, tried out under full power & found satisfactory.

The amount of Entry Fee	...	£	:	When applied for,
Special	...	75: 00	:	May 26, 1941
Donkey Boiler Fee	...	£	:	When received,
Travelling Expenses (if any)	£	2: 50	:	1941

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

Committee's Minute

NEW YORK AUG 18 1941

Assigned See attached First Entry Report



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