

DEC 20 1948

# REPORT ON/STEAM TURBINE MACHINERY. *No.* 3644

Received at London Office MAY 1 1942

Survey Report July 8, 1941 When handed in at Local Office 19 Port of Boston, Massachusetts  
 Survey held at Lynn, Mass. Date, First Survey Feb. 7, 1940 Last Survey Dec. 14, 1940  
 on the Hull Nos. 4353, 4354, 4355 and 4356 add (Number of Violets 7)  
Sparrows Point, Md. By whom built Bethlehem Steel Company Yard No. 4355-4356 Tons 4353-4354 Gross 1941  
made at Lynn, Mass. By whom made General Electric Company Engine No. 45938 When made 1940  
made at By whom made Boiler No. When made   
orse Power at Full Power Owners  Port belonging to   
orse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted Yes  
or which Vessel is intended

**TURBINE ENGINES, &c.**—Description of Engines One turbine connected to 300-K.W. Generator thru single reduction gears.

[illegible]

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

[illegible]

Horse Power at each turbine	H.P.	Revolutions per minute, at full power, of each Turbine Shaft	H.P.	5636	1st reduction wheel	
	I.P.		I.P.			
	L.P.		L.P.		main shaft 1200	
Shaft diameter at journals	H.P.	Pitch Circle Diameter	1st pinion	5.4414	1st reduction wheel	
	I.P.		2nd pinion		main wheel 25.5585	Width of Face
	L.P.					1st reduction wheel

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"

**Pinion diameter**  $\left\{ \begin{array}{l} 1^{st} \\ 2^{nd} \end{array} \right.$  **Pinion Shafts, diameter at bearings**  $\left\{ \begin{array}{l} \text{External} \\ \text{Internal} \end{array} \right.$   $\left\{ \begin{array}{l} 1^{st} \\ 2^{nd} \end{array} \right.$   $\left\{ \begin{array}{l} \text{External} \\ \text{Internal} \end{array} \right.$   $\left\{ \begin{array}{l} 1^{st} \\ 2^{nd} \end{array} \right.$  **diameter at bottom of pinion teeth**  $\left\{ \begin{array}{l} 1^{st} 5.0664'' \\ 2^{nd} \end{array} \right.$

1st 4" 1st 25.827" Generator Shaft, diameter at bearings 3-1/2"

shaft, diameter at bearings diameter at wheel shroud Proncing Motor Shaft, diameter at bearings

main outside of gear main

Late Shafts, diameter *as per rule.*  
*as fitted*  
 Thrust Shaft, diameter at collars *as per rule.*  
*as fitted*  
 Tube Shaft, diameter *as per rule.*  
*as fitted*

Is the { tube } shaft fitted with a continuous liner { } **Bronze Liners,** thickness in way of bushes { } as per rule  
as fitted { screw }

*as per rule*..... *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*

*If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with oil*

*erial 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*

<i>Kayometer</i>	<i>Pitch</i>	<i>No. of Blades</i>	<i>State whether Movable</i>	<i>Total Translated Surface</i>

**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

No. of Turbines fitted with astern wheels	<b>Feed Pumps</b>	{ No. and size { How driven
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connected to the Main Bilge Line { No. and size \_\_\_\_\_  
How driven \_\_\_\_\_

**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**  
 0, and size :—In Engine and Boiler Room

ter 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

*Large 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*

**a Connections fitted direct on the skin of the ship** ..... **Are they fitted with Valves or Cocks** .....

ed sufficiently high on the ship's side to be seen without lifting the stowhold plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_

Are the Blow Off Cocks fitted with a spigot and brass covering plate

*pass through the bunkers* *How are they protected*

pass through the deep tanks

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

agement 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 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?  
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.

FOR SHIP

The foregoing is a correct description,

General Elec Co per A.T. Zolau - Manufacturer

Dates of Survey while building { During progress of work in shops - - Feb. 7, March 13, April 23, 29, June 13, August 5, December 14, 1940  
During erection on board vessel - - -  
Total No. of visits Seven

Dates of Examination of principal parts—Casings Dec. 14, 1940 Rotor Dec. 14, 1940 Blading Dec. 14, 1940 Gearing Dec. 14, 1940

Wheel shaft Dec. 14, 1940 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 C.I. Steel 105,000 lbs. per sq. in. Identification Mark 368 14-12-40 T.B.

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength C.I. Steel 105,000 lbs. per sq. in. Identification Mark 368 14-12-40 T.B.

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

Wheel shaft, Material C.I. Steel Identification Mark 368 14-12-40 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 Bethlehem Steel Company, Sparrows Point, Md.

The amount of Entry Fee ... £ :  
Special ... £ 75.00  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ 2.50

When applied for, 8-7 1941  
When received, 19

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

Committee's Minute NEW YORK DEC 30 1941

Assigned See BAL. RPT. 7585



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Foundation