

AUXILIARY

## REPORT ON STEAM TURBINE MACHINERY. No. 3407

AUG 14 1939

4a.

Received at London Office

Date of writing Report Apr. 20, 1939 When handed in at Local Office 19 Port of Boston, Massachusetts  
 Date, First Survey Sept. 16, 1938 Last Survey Feb. 25, 1939  
 Date in Survey held at Lynn, Mass. (Number of Visits 12)  
 Reg. Book. on the REGISTRY  
 Tons } Gross  
 Net  
 Built at Sparrows Point, Md. By whom built Bethlehem Steel Company Yard No. 4433 When built 1939  
 Engines made at Lynn, Mass. By whom made General Electric Co. Engine No. 44340 When made 1939  
 Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓  
 Shaft Horse Power at Full Power ✓ Owners Socony Vacuum Oil Company 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 ✓

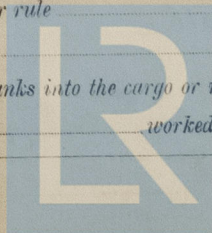
STEAM TURBINE ENGINES, &c.—Description of Engines Two turbine generators with single reduction gear.

No. of Turbines one each set single reduction geared to Generators No. of primary pinions to each set of reduction gearing one  
 Direct coupled to ✓ phase periods per second 300 Kilowatts 240 Volts at 1200 revolutions per minute;  
 supplying power for driving ✓ Auxiliary machinery and electric lighting  
 rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LOADING.	MEAN 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.
1st EXPANSION	500.960	25.5 25.96	2					
2nd	504 1.03	25.5 25.90	2					
3rd	1.374 2.37	26.65 26.76	2					
4th								
5th								
6th								
7th								
8th								
9th								
10th								

Shaft Horse Power at each turbine { H.P. 5636 1st reduction wheel ✓  
 { I.P. 1200 main shaft 1200  
 { L.P. 1200  
 Rotor Shaft diameter at journals { H.P. 4" Pitch Circle { 1st pinion 5.441" 1st reduction wheel ✓  
 { I.P. 25.558" main wheel 25.558" Width of Face { 1st reduction wheel 7-1/2"  
 { L.P. 6-5/8" & 7-5/8" 2nd pinion 6-5/8" & 7-5/8" main wheel 6-3/4"  
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 4" 1st reduction wheel ✓  
 { 2nd pinion 6-3/4" main wheel 6-3/4"  
 Flexible Pinion Shafts, diameter { 1st 5.066" diameter at bottom of pinion teeth { 1st 5.066"  
 { 2nd 3-1/2" 2nd 3-1/2"  
 Wheel Shafts, diameter at bearings { 1st 25.827" Generator Shaft, diameter at bearings 3-1/2"  
 { main outside of gear main ✓ Propelling Motor Shaft, diameter at bearings ✓  
 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 as fitted as fitted as fitted  
 Screw Shaft, diameter as per rule Is the { tube } shaft fitted with a continuous liner { Bronze Liners, thickness in way of bushes as per rule  
 as fitted Is the after end of the liner made watertight in the propeller boss as fitted  
 Thickness between bushes as per rule Is the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a  
 as fitted 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  
 or 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.  
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or L.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  
 In 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 they fitted with Valves or Cocks  
 Are all Sea Connections fitted direct on the skin of the ship Are the Overboard Discharges above or below the deep water line  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Blow Off Cocks fitted with a spigot and brass covering plate  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel How are they protected  
 What pipes pass through the bunkers Have they been tested as per rule  
 What pipes pass through the deep tanks  
 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 worked from



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01/823-01/825-01/21



**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:— (2) L.S. Bearings (2) Pinion Bearings (1) Thrust Bearing  
(8) H.S. Coupling Bolts (6) L.S. Coupling Bolts (6) Bolts for Hor. Casing Joint  
(6) Nuts for Casing Bolts (8) Elastic Stop Nuts

The foregoing is a correct description,

**GENERAL ELECTRIC COMPANY**  
**BY A. G. CALE**

Manufactured

Dates of Survey while building  
During progress of work in shops -- Sept. 16-21-26 Oct. 5 Nov. 18 Dec 7  
During erection on board vessel --- Feb. 7-10-23-24, 25, 1939  
Total No. of visits

Dates of Examination of principal parts—Casing Spt. 16 Nov. 18 Rotors Feb. 10-24 Blading Feb. 10-24 Gearing Feb. 10-24-2

Wheel shaft ✓ 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 108,500 - 103,850

Identification Mark 266 10-2-30 T.B. 267 24-2-39 T.B.

Flexible Pinion Shaft, Material and tensile strength ✓

Identification Mark 266 10-2-39 T.B.

Pinion shaft, Material and tensile strength O.H. Steel 91,250 - 84,500

Identification Mark 267 24-2-39 T.B.

~~xx~~ Wheel Shaft, Material and tensile strength O.H. Steel 74,000 - 78,000

Identification Mark 266 10-2-39 T.B. 267 24-2-39 T.B.

Wheel shaft, Material Identification Mark

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 two geared turbine electric generators have been built under Special Survey, Tested under steam and the oil governor adjusted to trip at 1340 R.P.M. The quality of the workmanship and materials is good.

The amount of Entry Fee ... £ \$ 150.00 :  
Special ... £ : : 20,4 19.39  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : 5.00 : June 8, 1939 A.B.A.

When applied for,

20,4 19.39

When received,

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK AUG 2 - 1939

Assigned See attached Report Balt. No. 6 P25



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