

AUXILIARY

REPORT ON STEAM TURBINE MACHINERY. No. 3407

AUG 14 1939

Received at London Office

4a.

Writing Report on 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
Survey held at Lynn, Mass.
By whom built Bethlehem Steel Company
By whom made General Electric Co.
Boilers made at Sparrows Point, Md.
Shaft Horse Power at Full Power
Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted.

RECEIVED MAR 15 1939

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

No. of Turbines Ahead one each
Aster No. set
Direct coupled to
Supplying power for driving
Auxiliary machinery and electric lighting

Table with columns: MEAN H.P., I.P., L.P., ASTERN. Rows include Turbine Loading, Height of blades, Diameter at tip, No. of rows, etc.

Shaft Horse Power at each turbine
Revolutions per minute, at full power, of each Turbine Shaft
H.P. 5636
L.P. 1200

Rotor Shaft diameter at journals
Pitch Circle Diameter
1st pinion 5.441"
2nd pinion 6-5/8" & 7-5/8"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings
1st pinion 4"
2nd pinion 6-3/4"

Flexible Pinion Shafts, diameter
Pinion Shafts, diameter at bearings
1st 4"
2nd 3-1/2"

Wheel Shafts, diameter at bearings
Generator Shaft, diameter at bearings
1st 25.827"
Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter
Thrust Shaft, diameter at collars
Tube Shaft, diameter

Screw Shaft, diameter
Is the shaft filled with a continuous liner
Bronze Liners, thickness in way of bushes

Thickness between bushes
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

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 I.P. Turbine exhaust direct to the

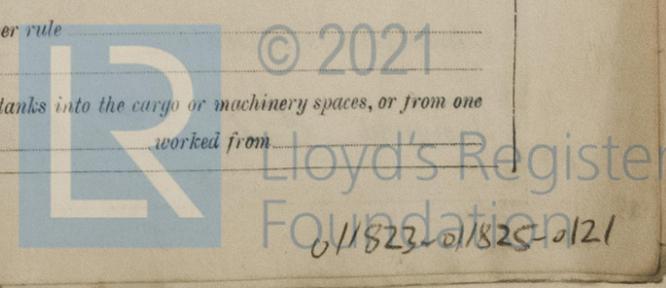
Condenser
No. of Turbines fitted with astern wheels
Feed Pumps
No. and size
How driven

Pumps connected to the Main Bilge Line
Ballast Pumps, No. and size
Lubricating Oil Pumps, including Spare Pump, No. and size
Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Are two independent means arranged for circulating water through the Oil Cooler
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



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 **an Auxiliary** Boiler fitted? _____
 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. 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**
 Manufacturer

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.**
 Flexible Pinion Shaft, Material and tensile strength ✓ Identification Mark **267 24-2-39 T.B.**
 Pinion shaft, Material and tensile strength **O.H. Steel 91,250 - 84,500** Identification Mark **266 10-2-39 T.B.**
~~xxxxxx~~ Wheel Shaft, Material and tensile strength **O.H. Steel 74,000 - 78,000** Identification Mark **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** : When applied for,
 Special ... £ : **20,4** 19**39**
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ : **5.00** : June 1939 R.B.A.

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

Committee's Minute **NEW YORK AUG 2 - 1939**

Assigned *See attached Report Balt. No. 6825*



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