

Report on Steam Turbine Machinery.

No. 104463.

2 SEP 1949

Received at London Office

19 When handed in at Local Office

19 Port of

NEWCASTLE-on-TYNE

at Wallsend/Tyne.

Date, First Survey

22nd June, Last Survey

22nd July, 1949.

(Number of Visits 15.)

T. F. S. HYRCANIA.

Ala.
Cymr. Man.

By whom built Alabama P.P. & S.B. Co.

Yard No. 4836.

When built 1944

By whom made General Electric Co.

Engine No. 61836.

When made 1944

By whom made Camb. Eng. Co.

Boiler No. S. 7615.

When made 1944

at Full Power 6600

Owners Baltic Trading Co. Ltd.

Port belonging to London

as per Rule 1500

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted yes

essel is intended MN-1486

Carrying Petroleum in bulk.

E ENGINES, &c.—Description of Engines.

Turbo Electric : Steam turbine.

One Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing

Alternating Current Generator 3 phase 62 periods per second rated 5400 Kilowatts 2370 Volts at 3715 revolutions per minute;

or driving One Propelling Motor Type Marine Synchronous

owatts 2370 Volts at 93 revolutions per minute. Direct coupled, single or double reduction geared to One propelling shaft

H. P.

I. P.

L. P.

ASTERN.

10 stages 11 Rows.

H.P. 6600

H.P. 3715

Revolutions per minute, at full power, of each Turbine Shaft

Pitch Circle Diameter 1st pinion 1st reduction wheel 2nd pinion main wheel Width of Face 1st reduction wheel main wheel

Centres of pinion and wheel faces and the centre of the adjacent bearings

Pinion Shafts, diameter at bearings External 1st 2nd diameter at bottom of pinion teeth

Generator Shaft, diameter at bearings 4" 2nd

Propelling Motor Shaft, diameter at bearings 17.25"

Thrust Shaft, diameter at collars as per rule 17.39" as fitted 17.5"

Screw Shaft, diameter as per rule 18.85" as fitted 18.625"

Thickness between bushes as per rule 1.85" as fitted 1.125"

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

Is the space charged with a plastic material insoluble in water and non-corrosive

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

Length of Bearing in Stern Bush next to and supporting propeller 7'-3"

Pitch 17'-6" No. of Bades 4 State whether Moveable Fixed Total Developed Surface 138.3 square feet.

Arrangements made so that steam can be led direct to the L.P. Turbine

No. of Turbines fitted with astern wheels None Feed Pumps No. and size 2-200 GPM 1-930 GPM 10"x7"x24"

How driven Turbo Steam Steam Vertical

Main Bilge Line No. and size 2-175 GPM 2-450 GPM

How driven Electric Motors

Lubricating Oil Pumps, including Spare Pump, No. and size 2-60 GPM

Means arranged for circulating water through the Oil Cooler yes

Suctions, connected both to Main Bilge Pumps and Auxiliary

In Engine and Boiler Room 2-3 1/2" 9-3" 4-2 1/2" In Pump Room 1-4"

Upper hold 2-3" 1-3" Exhaust Suction 5-3" Offshore Suction

Pump Direct Bilge Suctions, No. and size 1-18" Independent Power Pump Direct Suctions to the Engine Room

2-4" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Are they fitted with Valves or Cocks Valves

Are the Overboard Discharges above or below the deep water

Are the Blow Off Cocks fitted with a spigot and brass

How are they protected

Have they been tested as per rule

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

Are 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

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from Platform

Letter for record

Total Heating Surface of Boilers 11354 sq. ft.

No. and Description of Boilers 2- Water tube

Working Pressure 500 lb./sq. in.

Boilers now forwarded? Previously Forwarded

003631-003639-0029

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Is a Donkey Boiler fitted? *No.* ✓ If so, is a report now forwarded? ✓
an Auxiliary

Is the donkey boiler intended to be used for domestic purposes only? ✓

Plans. Are approved plans forwarded herewith for Shafting? ✓ Main Boilers? ✓ Auxiliary Boilers? ✓
(If not, state date of approval)

Superheaters? ✓ General Pumping Arrangements? ✓ Oil Fuel Burning Arrangements? ✓

Gear turbines situated aft. Have torsional vibration characteristics of system been approved? ✓ Date of approval? ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Spare gear verified* ✓

State the principal additional spare gear supplied. ✓

The foregoing is a correct description,

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - -
Total No. of visits

Dates of Examination of principal parts—Casings. Rotors. Blading. Gears.

Wheel shaft. Thrust shaft. Intermediate shafts. Tube shaft. Screws.

Propeller. Stern tube. Engine and boiler seatings. Engine holding down bolts.

Completion of fitting sea connections. Completion of pumping arrangements. Boilers fixed. Engines tried.

Main boiler safety valves adjusted. Thickness of adjusting washers.

Rotor shaft, Material and tensile strength. Identification Mark.

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

Pinion shaft, Material and tensile strength. Identification Mark.

; Chemical analysis.

If Pinion Shafts are made of special steel state date of approval of chemical analysis, physical properties and heat treatment.

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

Wheel shaft, Material. Identification Mark. Thrust shaft, Material. Identification.

Intermediate shafts, Material. Identification Marks. Tube shaft, Material. Identification.

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? *Yes.* If so, state name of vessel. *T.2. Tanker.*

General Remarks. (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been constructed under the supervision of the U.S. Coastguards, & American Bureau of Shipping. Materials & workmanship are considered. The scantlings & arrangements have been checked in accordance with the plans on board the vessel. The Machinery has been examined opened up, & under working conditions & is satisfactory & is eligible in my opinion to be classed as subject to the rotor blading of both turbo generators being renewed before the end of July 1950.

The amount of Entry Fee ... £ : : When applied for.
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : 19

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

FRI. 28 OCT 1949

Assigned

(See minute of Form 9)

James W. Walker
Engineer Surveyor to Lloyd's Register



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