

REPORT ON STEAM TURBINE MACHINERY. No. 7969

Generating sets.

pt. 4a.

Date of writing Report 10th Dec 1940 When handed in at Local Office 10th Dec 1940 Port of Philadelphia Received at London Office FEB 17 1941

No. in Survey held at Chester Pa. Date, First Survey 1940 Last Survey 19

Reg. Book. M/S. AMERICA. SUN. (Number of Visits 1)

Built at Chester Pa. By whom built Sm Sg & D Co Yard No. 196 Tons ^{Gross} 10248 _{Net} 6891

Engines made at West Lynn, Mass By whom made General Electric Co Engine No. 1776007 When built 1940

Boilers made at By whom made Boiler No. 1776008 When made "

Shaft Horse Power at Full Power By whom made Port belonging to Philadelphia

Nom. Horse Power as per Rule By whom made Is Refrigerating Machinery fitted for cargo purposes By whom made Is Electric Light fitted Yes

Trade for which Vessel is intended hauling Petroleum in bulk.

TEAM TURBINE ENGINES, &c.—Description of Engines Turbines driving generating sets.

No. of Turbines 1 Ahead ✓ Direct coupled, single reduction geared } to ✓ propelling shafts. No. of primary pinions to each set of reduction gearing 1

Astern ✓ double reduction geared }

direct coupled to ✓ Alternating Current Generator ✓ phase ✓ periods per second ✓ rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute;

for supplying power for driving ✓ Propelling Motors, Type ✓

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

TURBINE BLADING.	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 EXPANSION <u>1 stage</u>	<u>.500"</u>	<u>25.6"</u>	<u>1</u>									
2ND "	<u>.960"</u>	<u>26.1"</u>	<u>1</u>									
3RD "	<u>.487-.520"</u>	<u>25.6-25.68"</u>	<u>1</u>									
4TH "	<u>.602-.800"</u>	<u>26.1-26.30"</u>	<u>1</u>									
5TH "	<u>1.630"</u>	<u>27.012"</u>	<u>1</u>									
6TH "												
7TH "												
8TH "												
9TH "												
10TH "												
11TH "												
12TH "												

Shaft Kilowatts Horse Power at each turbine H.P. 900 ✓

Revolutions per minute, at full power, of each Turbine Shaft H.P. 4244 ✓

Rotor Shaft diameter at journals H.P. 2 1/2" ✓

Pitch Circle Diameter 6.8333" ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 6 5/8" ✓

Flexible Pinion Shafts, diameter 1st 4" ✓

Pinion Shafts, diameter at bearings External 1st 4" ✓

Wheel Shafts, diameter at bearings 1st 24.101" ✓

Generator Shaft, diameter at bearings 3" ✓

Intermediate Shafts, diameter main 4" ✓

Propelling Motor Shaft, diameter at bearings 3" ✓

Screw Shaft, diameter as per rule ✓

Thrust Shaft, diameter at collars as per rule ✓

Tube Shaft, diameter as per rule ✓

Thickness between bushes as fitted ✓

Bronze Liners, thickness in way of bushes as fitted ✓

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 ✓

Feed Pumps No. and size ✓

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 ✓

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 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 stowhold 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 ✓ 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 an Auxiliary Boiler fitted? If so, is a report now forwarded?

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: For turbines & gears, 1 set of springs for Governors, 1 set packing rings for segments with springs for each gland so fitted, 5% of bolts and studs & nuts of turbine & gear casing joints, 1 set of thrust pads, also springs where fitted for each size of turbine thrust beam, 1 set of bolts & nuts of each size turbine rotor pinion & gear bearings, 1 set of assorted shims and liners where fitted, 2 bearing bushes for each size turbine rotor pinion & gear bearings, 1 set of coupling bolts of each size fitted. Generators, 1 set bushes, 1 field coil of each size and type, 1 set of bearing linings, 1 bush holder with 3 spare springs, 1 set bush rigging insulation.

The foregoing is a correct description,

J. P. Nolan - General Electric Co. Manufacturer

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 Gearing

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 Identification Mark

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength Identification Mark

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

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. Due to an oversight on the part of the firm SBC

these two generating sets were not built under Special Survey of this Society, they were however built under Special Survey of the American Bureau of Shipping, and meet all the requirements of that Society, and the American Government. These sets have been tried out under full power on board the vessel, and found to be operating satisfactorily. Attached please find test results as supplied by the manufacturer, also a copy of the specifications. It will be noted that the tests meet the requirements of the Society, except the high voltage test, which is only 1500 volts instead of 2000. It does however meet the requirements of the American Bureau of Shipping, and the Government Inspection service. It is respectfully recommended in view of the above, that these two generating sets can be accepted by this Society.

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

W. W. Penham
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK JAN 8 - 1911

Assigned See First Entry Report attached.



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