

AUX GENERATORS

REPORT ON STEAM TURBINE MACHINERY.

Rpt. 4a.

No. 82943

Date of writing Report 16 Oct 41 When handed in at Local Office 16 Oct 42 Port of Philadelphia
No. in Survey held at Epsington, Pa Date, First Survey 7 July Last Survey 8 July 1942
Reg. Book. 2 - 250 KW generating set for S/S GULF MARACAIBO Tons Gross 9306
on the Built at Lehigh, Pa By whom built Sun 83 & DD Co Yard No. 233 When built 1942
Engines made at Epsington, Pa By whom made Westinghouse E.M.C Engine No. 2A7725-1-2 When made "
Boilers made at Carthage By whom made Foster Wheeler Boiler No. When made "
Shaft Horse Power at Full Power Owners Gulf Oil Co Port belonging to Philadelphia
Nom. Horse Power as per Rule 900 972 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which Vessel is intended Carrying Petroleum in bulk.

STEAM TURBINE ENGINES, &c.—Description of Engines 2. 250 KW generating sets

No. of Turbines 1 Ahead 1 Direct coupled, single reduction geared } to generator propelling shafts. No. of primary pinions to each set of reduction gearing 1
direct coupled to { Alternating Current Generator phase periods per second } rated 250 Kilowatts 220 Volts at 1200 revolutions per minute;
for supplying power for driving Lighting 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	1.468	21.70	1									
2ND	1.803	26.17	1									
3RD	1.875	26.15	1									
4TH	1.581	27.04	1									
5TH	1.013	27.25	1									
6TH	1.817	28.32	1									
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. 449 } { I.P. } { L.P. } { H.P. 5015 } { I.P. } { L.P. }
Revolutions per minute, at full power, of each Turbine Shaft { 1st reduction wheel 1200 }
main shaft

Rotor Shaft diameter at journals { H.P. 2.495 } { I.P. } { L.P. } { H.P. 2.495 } { I.P. } { L.P. }
Pitch Circle Diameter { 1st pinion 5.253 } { 1st reduction wheel } { 2nd pinion } { main wheel 21.917 }
Width of Face { 1st reduction wheel } { main wheel 5 1/2 }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 5.9375 } { 1st reduction wheel } { 2nd pinion } { main wheel 5.9375 }

Flexible Pinion Shafts, diameter { 1st } { 2nd } { Pinion Shafts, diameter at bearings } { External } { Internal } { 1st } { 2nd } { diameter at bottom of pinion teeth } { 1st 5.0216 } { 2nd }

GEAR Wheel Shafts, diameter at bearings { 1st 3.990 } { main } { diameter at wheel shroud, } { 1st 22.157 } { Generator Shaft, diameter at bearings } { Propelling Motor Shaft, diameter at bearings }

Intermediate 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 } { Screw Shaft, diameter } { as per rule } { as fitted } { Is the { tube } shaft fitted with a continuous liner { screw }

Bronze Liners, thickness in way of bushes { as per rule } { as fitted } { Thickness between bushes } { as per rule } { as fitted } { 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 made by fusion through the whole thickness of the liner

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a 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 If so, state type 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 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 { 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 Pump 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 stokehold 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 } Boiler fitted? 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 Donkey Boilers
(If not state date of approval)

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description, Westinghouse E. & M. Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - - 7 & 8 July 1942
During erection on board vessel - - 28 Sept 1942
Total No. of visits 3

Dates of Examination of principal parts—Casings 8 July Rotors 8 July Blading 8 July Gearing 8 July

Wheel shaft 8 July Thrust shaft Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

Completion of fitting sea connections 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 102500 lbs Identification Mark 798-1-2 WMR

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength O.H. Steel 102000 lbs Identification Mark 4015-1-2 WMR

1st Reduction Wheel Shaft, Material and tensile strength O.H. Steel 88000 lbs Identification Mark 4784-1-2 WMR

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

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 NO If so, state name of vessel

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

The above generators have been constructed, under Special Survey & in accordance with the approved plans, the workmanship & materials are good. They have been satisfactorily installed on board the vessel, tried out under full power & found satisfactory.

The amount of Entry Fee ... : When applied for, 12 Dec 42

Special ... : When received, 19

Donkey Boiler Fee ... £ : Travelling Expenses (if any) 3.00

Committee's Minute NEW YORK DEC 16 1942

Assigned See First Entry Report attached



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