

REPORT ON STEAM TURBINE MACHINERY. No. 9288

Received at London Office 18 AUG 1949

Date of writing Report 11th May, 49 When handed in at Local Office 11th May, 49 Port of PHILADELPHIA, PA.
 No. in Survey held at Essington, Pa. Date, First Survey 13th March, Last Survey 14th March, 19 49
 Reg. Book. (Number of Visits two)
 on the

Built at Sparrows Pt., Md. By whom built Beth. Steel Co. (Ship. Div.) Yard No. 4467 When built 1949
 Engines made at Essington, Pa. By whom made Westinghouse Elec. Co. Engine No. 5A-7487 Ser. 1 When made 1949
 Boilers made at - By whom made - Gear No. 5A-7488 Boiler No. - When made 1949
 Shaft Horse Power at Full Power - Owners Gulf Oil Corp. Generator 1S. 37P504 Port belonging to
 Nom. Horse Power as per Rule - Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines Geared Turbine Generating Set.

No. of Turbines Ahead one ~~Direct coupled~~ single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing.
 Altern. ~~Double reduction geared~~
 Direct coupled to Alternating Current Generator 3 phase 60 periods per second } rated 400 Kilowatts 440 Volts at 1200 revolutions per minute;
 Direct Current Generator
 r supplying power for driving Propelling Motors &c. Auxiliary Machinery & Lighting.
 400 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

	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.
EXPANSION	43" - .500"	15.167"	1									
"	758" - .840"	15.579"	1									
"	.558"	17.020"	1									
"	.853"	17.610"	1									
"	1.483"	18.810"	1									
"	.787"	17.478"	1									
"	1.483"	18.370"	1									
"	2.825"	19.994"	1									
"												
"												
"												
"												
"												

Shaft Horse Power at each turbine { H.P. 9018 1st reduction wheel -
 { I.P. Revolutions per minute, at full power, of each Turbine Shaft { I.P. main shaft 1200
 { L.P.

Motor Shaft diameter at journals { H.P. 2" Pitch Circle { 1st pinion 3.918" 1st reduction wheel Width of { 1st reduction wheel 10"
 { I.P. Diameter { 2nd pinion main wheel 29.446" Face { main wheel 10"
 { L.P.

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6 13/16" 1st reduction wheel
 { 2nd pinion main wheel 6 13/16"

Flexible Pinion Shafts, diameter { 1st Pinion Shafts, diameter at bearings External 1st 2 5/8" 2nd { diameter at bottom of pinion teeth { 1st 3.7078"
 { 2nd Internal 1st { 2nd { 2nd {

Wheel Shafts, diameter at bearings { 1st - Generator Shaft, diameter at bearings 4"
 { main 2" diameter at wheel shroud, { main - Propelling Motor Shaft, diameter at bearings -

Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule
 as fitted

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

Linze Liners, thickness in way of bushes as per rule Thickness between bushes as per rule Is the after end of the liner made watertight in the
 as fitted as fitted as fitted

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

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
 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.
 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
 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
 Holds, &c.

In Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
 es, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.

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
 all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks.

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
 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

t pipes pass through the bunkers How are they protected
 t pipes pass through the deep tanks Have they been tested as per rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
 e 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

partment 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 Working Pressure

Is Forced Draft fitted No. and Description of Boilers

Is a Report on Main Boilers now forwarded? If so, is a report now forwarded?

Is a Donkey Boiler fitted? If so, is a report now forwarded?

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

Plans. Are approved plans forwarded herewith for Shafing Main Boilers Auxiliary Boilers Donkey Boilers

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

Has the spare gear required by the Rules been supplied SPARE GEAR. as per Rule.

State the principal additional spare gear supplied

The foregoing is a correct description, WESTINGHOUSE ELECTRIC CORP. A.W. Stephen Manufacture

Dates of Survey 13th and 14th March, 1949 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 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 108,000 lbs. O.H. Steel Identification Mark 80232

Gear Pinion Shaft, Material and tensile strength 105,000 lbs. O.H. Steel Identification Mark 77562

Intermediate shaft, Material and tensile strength Brinell 174 - 187 O.H. steel Identification Mark 77554

1st Reduction Wheel Shaft, Material and tensile strength 81,000 " Identification Mark 79237

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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) The geared turbine electric generator has been

built under Special Survey, in accordance with the approved plans. The workmanship and material

are good throughout. Attached find test reports of the various forgings. The machinery was

tested under steam at various loads and found efficient. The overspeed and low pressure oil

were tested out and found in order. This unit has been forwarded to the Bethlehem Steel Company

Shipbuilding Division, Sparrows Point, Maryland. For identification purposes, the turbine was

LLOYD'S, 6402, S.S. 14/3/49.

The amount of Entry Fee ... £ : : When applied for, 19

Special ... £ : : When received, 19

Donkey Boiler Fee ... £ : : 19

Travelling Expenses (if any) £ : : 19

Committee's Minute Assigned See First Entry Report BAL. 8911 attached