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MAR 1945

# REPORT ON STEAM TURBINE MACHINERY. No. 1228

Received at London Office 12 MAR 1945

of writing Report 1st Feb. 1945 handed in at Local Office 19... Port of Jacksonville, Fla.  
 o. in Survey held at Jacksonville, Fla. Date, First Survey 14th July Last Survey 22nd December 1944  
 (Number of Visits 6...)  
 1413 on the S/S "POUCOU" ex "GULFBELLE" Tons { Gross 7104 Net 4346  
 built at Chester, Pa. By whom built Sun Shipbuilding Co. Yard No. 153 When built 1936  
 engines made at Philadelphia, Pa. By whom made Westinghouse Mfg. Co. Engine No. 18121 When made 1936  
 boilers made at Carteret, N. J. By whom made Foster Wheeler Corp. Boiler No. - When made 1936  
 shaft Horse Power at Full Power 2800 Owners Port belonging to Panama  
 Nom. Horse Power as per Rule 544 649 MN = 865 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended Tanker

## STEAM TURBINE ENGINES, &C.—Description of Engines Steam Turbines Double Reduction Geared

No. of Turbines Ahead 2 Direct coupled, single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing -  
 Astern 1 double reduction geared }  
 Direct coupled to { Alternating Current Generator - phase - periods per second } rated - Kilowatts - Volts at - revolutions per minute;  
 Direct Current Generator }  
 for supplying power for driving - Propelling Motors, Type -  
 ated - Kilowatts - Volts at - revolutions per minute. Direct coupled, single or double reduction geared to - propelling shafts.

TURBINE BLADING.	H. P.			H. P. (Continued)			L. P.			ASTERN (Impulse)		
	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	.835	12.134	One	13-1.224	13.225	One	1.709	19.777	One	0.704	28.939	One
2ND	.858	12.215	"	14-1.300	13.359	"	1.785	20.287	"	1.502	29.877	"
3RD	.881	12.297	"	15-1.376	13.494	"	1.860	20.797	"	1.922	31.502	"
4TH	.904	12.378	"	16-1.452	13.628	"	1.936	21.307	"	3.093	30.252	"
5TH	.927	12.460	"	17-1.528	13.763	"	2.012	21.817	"	2 Stages on H.P. &		
6TH	.950	12.541	"	18-1.604	13.897	"	2.087	22.328	"	2 Stages on L.P.		
7TH	.983	12.633	"	19-1.680	14.032	"	2.163	22.828	"			
8TH	1.016	12.724	"	20-1.756	14.166	"	2.351	23.460	"			
9TH	1.049	12.816	"	21-1.832	14.301	"	2.662	24.205	"			
10TH	1.082	12.907	"	22-1.908	14.435	"	2.972	24.951	"			
11TH	1.115	12.999	"	23-1.984	14.570	"	3.283	25.696	"			
12TH	1.148	13.090	"				3.594	26.441	"			
							4.205	27.186	"			
							4.385	28.338	"			

Shaft Horse Power at each turbine { H.P. 1400 I.P. - L.P. 1400 }  
 H.P. 4830 1st reduction wheel 509  
 I.P. - main shaft 78  
 L.P. 3620

Rotor Shaft diameter at journals { H.P. 3.99" I.P. - L.P. 6.238 }  
 H.P. 7.9" 1st reduction wheel 6'-2.962"  
 I.P. 10.53" main wheel 8'-8.28"  
 L.P. 16.610 main wheel 8'-8.28"  
 Width of { 1st reduction wheel 14 1/4" main wheel 27 1/2" }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 9 1/2" 1st reduction wheel 2'-2 3/4" 2nd pinion 12 3/8" main wheel 2 - 5 5/8" }

Flexible Pinion Shafts, diameter { 1st 3-3/8" 2nd - } Pinion Shafts, diameter at bearings External 1st { 4" 2nd { 9.98" diameter at bottom of pinion teeth { 1st H.P. 7 1/4" & 10" 2nd 15 1/4" Internal 1st { - 2nd { 6" }

Wheel Shafts, diameter at bearings { 1st 9.98" diameter at wheel shroud, { 15'-11.66" Generator Shaft, diameter at bearings - main - 13.86 Rule 8'-4.25" Propelling Motor Shaft, diameter at bearings - }

Intermediate Shafts, diameter as per rule 13.2 as fitted 14 1/2" Thrust Shaft, diameter at collars as per rule 9 3/8" as fitted 9 1/2" Tube Shaft, diameter as per rule - as fitted None

Screw Shaft, diameter as per rule 14.66" as fitted 16" Is the tube screw { shaft fitted with a continuous liner } Yes Bronze Liners, thickness in way of bushes as per rule 7/8" as fitted 15/16"

Thickness between bushes as per rule - as fitted - Is the after end of the liner made watertight in the propeller boss Yes 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 No Length of Bearing in Stern Bush next to and supporting propeller 8'-7 1/4"

Propeller, diameter 17'-6" Pitch 17'-6" No. of Blades 4 State whether Moveable No Total Developed Surface - square feet. If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. or I.P. Turbine exhaust direct to the Condenser Yes No. of Turbines fitted with astern wheels One Feed Pumps { No. and size 2-2 1/4"x4" Stroke, 3 Crank-1-10"x7"x24" How driven Motor Steam }

Pumps connected to the Main Bilge Line { No. and size 1 - 8" x 10" x 24" - 1 - Centrifugal 4" Suction 3" discharge How driven Steam Motor }

Ballast Pumps, No. and size 1 - 8" x 10" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 4 G. R. Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 7 Suctions in Eng. Room - 4 in Boiler Room. All 4"

In Holds, & Cargo Tanks - Summer Tanks 6" Suctions 1 - 10" Independent Power Pump Direct Suctions to the Engine Room Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 - 4" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes

Bilges, No. and size 1 - 4" 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 Yes Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves and Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line Below Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Spigots

What pipes pass through the bunkers None How are they protected - What pipes pass through the deep tanks None 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 Yes 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 Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door - worked from

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers 5640 Sq. Ft.

Is Forced Draft fitted Yes No. and Description of Boilers 2 Water Tube Working Pressure 450 Lbs.

Is a Report on Main Boilers now forwarded? Yes

Is { a Donkey } Boiler fitted? No If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting Main Boilers Yes Auxiliary Boilers - Donkey Boilers -

Superheaters - General Pumping Arrangements - Oil Fuel Burning Arrangements -

Spare Gear. State the articles supplied:— Spares as specified in Rules

The foregoing is a correct description,

Manufacturer

Dates of Survey on board vessel 12-14-17-28, July; 14 August; 22nd December, 1944 Total No. of visits 6

Dates of Examination of principal parts—Casings 14 July, 1944 H.P. 14 July, 1944 14 July, 1944 Rotor L.P. 17 " " Blading 17 " " Gearing 28 July, 1944

Wheel shaft 28 July, 1944 Rotor shaft 28 July, 1944 Intermediate shafts 14 July, 1944 Tube shaft - Screw shaft 14 July, 1944

Propeller 12 July, 1944 Stern tube 14 July, 1944 Engine and boiler seatings 17 July, 1944 Engine holding down bolts 17 July, 1944

Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers Lock nuts fitted

Rotor shaft, Material and tensile strength Not available 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 Steel Identification Mark - Thrust shaft, Material Steel Identification Mark 18121

Intermediate shafts, Material Steel Identification Marks - Tube shaft, Material - Identification Marks -

Screw shaft, Material Steel Identification Marks 153 S. 4-3-36 Steam Pipes, Material Steel Test pressure 675 lbs.

Date of test 14 August, 1944 Is an installation fitted for burning oil fuel Yes

Is the flash point of the oil to be used over 150°F. Yes Have the requirements of the Rules for the use of oil as fuel been complied with Yes

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 machinery of this vessel was not built under Special Survey. It was built under survey of American Bureau of Shipping. It has, however, been thoroughly overhauled and examined, and it complies with the Rules and the material and workmanship appear to be good throughout.

The machinery has been satisfactorily tried at full power, and it is now in good and safe working condition, and eligible, in my opinion, to be classed L. M. C. with date, F. D. and fitted for oil fuel with date F. P. above 150° F. Please also see report on form Rpt. 9 herewith.

The amount of Entry Fee ... £ 30.00 : When applied for, Special ... £ 300.00 : 5 Feb. 45 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) £ 12.00 : 19

A. Stewart Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK FEB 21 1945

Assigned L.M.C. 12.44

T.S.-CL. 7.44



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