

# REPORT ON STEAM TURBINE MACHINERY. No. 8826

Received at London Office 18 MAY 1949

of writing Report. 18th March, 1949 When handed in at Local Office. 19th April, 1949 Port of Baltimore, Maryland.  
in Survey held at Baltimore, Maryland. Date, First Survey 5th. Oct. 1948 Last Survey 11th. March 1949  
Reg. Book on the S.S. " WORLD PEACE "  
uilt at Sparrows Point, Maryland. By whom built Bethlehem Sparrows Point Yard No. 4466 When built 1948/49  
Engines made at Quincy, Mass. By whom made Bethlehem Steel Co., HP-4367-H28 Engine No. LP-4367-128 When made 1948  
Boilers made at Carteret, N.J. By whom made Foster - Wheeler Corp. Boiler No. 3254 & 3255 When made 1948  
Shaft Horse Power at Full Power 7000 NORMAL Owners World Tankers Corp. Port belonging to Monrovia  
om. Horse Power as per Rule 1179 MN 169 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
rade for which Vessel is intended Carrying Petroleum in bulk.

## TEAM TURBINE ENGINES, &c.—Description of Engines Steam Turbine - Cross Compound -

Ahead Two ~~XXXXXX~~ } to one Ahead (HP - Impulse Reaction ASTERN - IMPULSE  
o. of Turbines Astern One ~~XXXXXX~~ } propelling shafts. No. of primary pinions to each set of reduction gearing Two  
irect coupled to { Alternating Current Generator - phase - periods per second } rated - Kilowatts - Volts at - revolutions per minute;  
r supplying power for driving - Propelling Motors, Type -  
ed - Kilowatts - Volts at - revolutions per minute. Direct coupled, single or double reduction geared to - propelling shafts.

TURBINE LOADING.	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.	Length OF BLADES.	Pitch DIAMETER.	NO. OF ROWS.	HEIGHT OF BLADES.	Mean DIAMETER.	NO. OF ROWS.
1ST EXPANSION	1"	17"	5				2.114-2.42	1 1/4"	8	1 5/8"-2	1 1/8" 4 1/4"	3
2ND "	1 3/16"	17 3/16"	5				2.628-2.127	1 5/8"	7	4 1/2" - 6"	4' - 0"	2
3RD "	1 5/16"	17 5/16"	3				4.522-5.586	1 7/8"	3			
4TH "	1 9/16"	17 9/16"	3				6.144-6.551	2 3/16"	2			
5TH "	1 13/16"	17 13/16"	3				7.183-7.894	2 9/16"	2			
6TH "	2 1/8"	18 1/8"	3				9.184	3"	1			
7TH "							10.415	3 1/8"	1			
8TH "	15/16"	29 1/8"	1				11.872	3 1/4"	1			
9TH "	1 9/16"	30 1/8"	1									
10TH "												
11TH "												
12TH "												
13TH "												

Shaft Horse Power at each turbine { H.P. 3500 I.P. 3500 L.P. 3500 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 4500 I.P. 2300 L.P. 2300 }  
Total Shaft diameter at journals { H.P. 5" I.P. 9" L.P. 9" } Pitch Circle { 1st pinion 19.851" 2nd pinion 18.750" } 1st reduction wheel 19.750" main wheel 36.000"  
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 13 1/4" 2nd pinion 22 7/8" } 1st reduction wheel 13 1/4" main wheel 26.5"  
Flexible Pinion Shafts, diameter { 1st - Pinion Shafts, diameter at bearings External 5 Internal 14 } diameter at bottom of pinion teeth { 1st - HP - 9.657 2nd - LP - 19.493 }  
Wheel Shafts, diameter at bearings { 1st - diameter at wheel shroud, { 1st - Generator Shaft, diameter at bearings - 2nd - Propelling Motor Shaft, diameter at bearings - }  
Intermediate Shafts, diameter as per rule 17.4 as fitted 18.00 Thrust Shaft, diameter at collars as per rule - as fitted - Tube Shaft, diameter as per rule - as fitted -  
Screw Shaft, diameter as per rule 19.02 as fitted 20.75 Is the screw shaft fitted with a continuous liner Yes Bronze Liners, thickness in way of bushes as per rule .883 as fitted 1.125  
Thickness between bushes as per rule .662 as fitted 1.125 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 6' - 9'  
Propeller, diameter 19'-8" Pitch 20'-0" No. of Blades 4 State whether Moveable No Total Developed Surface 149 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 One - 10x7x24 130 gpm. Two - 10x7x24 130 gpm. }  
Pumps connected to the Main Bilge Line { No. and size One - 275 gpm. - 3". One 200gpm - 4". One - 400gpm - 4" }  
Ballast Pumps, No. and size One - 10x7x10". 275gpm. One 10x7x10-200gpm Lubricating Oil Pumps, including Spare Pump, No. and size One - M.D. Cent. Two Stage 370gpm. One - Recip. 8"x10"x24" - 300gpm.  
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 TWO One 3" and Two 4" In Holds, &c. Two 4"  
Main Water Circulating Pump Direct Bilge Suctions, No. and size One 16" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two - 4" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes - Yes  
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 Chests on spool Are they fitted with Valves or Cocks Valves  
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 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 -  
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 Yes  
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 No tunnel Is it fitted with a watertight door - worked from -



BOILERS, &c.— (Letter for record ) Total Heating Surface of Boilers. 7468 sq. ft. Including water walls.

Is Forced Draft fitted Yes

No. and Description of Boilers. Two F.W. "D" type marine

Working Pressure. 450 p.s.i.

Is a Report on Main Boilers now forwarded? Yes

Is { a Donkey } Boiler fitted? -

AB

If so, is a report now forwarded? -

Plans. Are approved plans forwarded herewith for Shafting Yes

Main Boilers. Yes

Auxiliary Boilers -

Donkey Boilers -

Superheaters Yes

General Pumping Arrangements Yes

Oil Fuel Burning Arrangements Yes

Spare Gear. State the articles supplied: Tailshaft with Liner 1692 AB 359 WDV 204. Propeller. AB 349 TOH 16 June 1948.

Two pinion bearing bushes 1st. and 2nd. Reduction. Two main gear wheel bearing bushes, Rotor Shaft bearing bush complete set packing rings and springs for each for each rotor shaft gland. One set of thrust pads for HP & LP turbines Impeller shaft for main circulator and impellers or rotors with shaft and special fittings for all other pumps incl valves for liquid ends. Large numbers of boiler spares including 24 tube plugs, 2 check valves, 3 burners with nozzles and atomizers. A large quantity of special fittings, assorted studs, bolts and nuts as well as steel bars, plates, pipes, and fittings of various sizes. One set of coupling bolts of each size.

The foregoing is a correct description,

Dates of Survey while building { ~~During erection on board vessel~~ } 5, 7, October, 1948. 23, February, 1949. 16, 22, 23 November 1948. 2, 7, 10, 11 March, 1949. Total No. of visits 6, 7, 15, 20 December, 1948.

Dates of Examination of principal parts—Casings 23rd. November, 1948. Rotors - Blading - 15, Decem

Wheel shaft - Thrust shaft - Intermediate shafts 26, Nov. 1948 Tube shaft - Gearing 11, March joint

Propeller 15, Dec. 1948 Stern tube 7, Oct. 1948 6, Dec. 1948 Engine and boiler seatings 16, 22 Nov. 1948 Engine holding down bolts 23 February 1

Completion of pumping arrangements 7 March 1949. Boilers fixed 7, 20 December 1948 Engines tried under steam 2 - 10 March 194

Main boiler safety valves adjusted 23 February 1949 Thickness of adjusting washers -

Rotor shaft, Material and tensile strength OH Steel 4K - 245 - E2. 48 - 1753 - 74 Identification Mark AB - 74.18, June

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

Pinion shaft, Material and tensile strength Ni Steel HP & LP - HS - 401863. HP & LP - LS 401864. Identification Mark 422 - 300 - 17

1st Reduction Wheel Shaft, Material and tensile strength Ni Steel 422 - 300 14 Identification Mark 422 - 300 - 15

Wheel shaft, Material OH Steel Identification Mark 422 - 300 - 1 Thrust shaft, Material - Identification Mark AB 393 CWC

Intermediate shafts, Material OH Steel Identification Marks #1-1694-01-361Y #2-1693-01-367Y Tube shaft, Material - Identification Marks -

Screw shaft, Material OH Steel Identification Marks 1692-01-625Y Steam Pipes, Material Seamless Steel Test pressure 1000. p.s.i.

Date of test 14th. February 1949. 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 No If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel was built under special surve

to the requirements of the American Bureau of Shipping in 1948. The dimensions in this report were taken from the

Approval Plans and checked as far as possible on the ship and found correct. All workmanship and material throughout

is good. The propelling machinery and all auxiliaries have been tested under full working conditions and found in go

and safe working condition.

The vessel appears worthy to be classed with this Society with the notation L.M.C. 3.49, fitted with oil fuel, F

above 150°F. 3.49 made in the Register Book.

Arranged The amount of Entry Fee £ 500.00 : When applied for, Special £ : 20 April, 1949 Donkey Boiler Fee £ : When received, Travelling Expenses (if any) £ 33.00 : 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK APR 27 1949

Assigned L.M.C. 3, 49.



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