

REPORT ON STEAM TURBINE MACHINERY. No. 8826

Date of writing Report: 18th March, 1949 When handed in at Local Office: 19th April, 1949 Port of Baltimore, Maryland.
 Date, First Survey: 5th. Oct. 1948 Last Survey: 11th. March 1949
 Reg. Book on the S.S. " WORLD PEACE " (Number of Visits: 14)
 Tons { Gross: 10892 Net: 6539 }
 Built at Sparrows Point, Maryland. By whom built Bethlehem Sparrows Point Yard No. 4466 When built 1948/49
 Engines made at Quincey, Mass. By whom made Bethlehem Steel Co., Shipyard Inc. Engine No. HP-4367-H28 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
 Nom. Horse Power as per Rule: 1179 MN 1695 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: Steam Turbine - Cross Compound -
 No. of Turbines: Ahead Two ~~HP - Impulse Reaction~~ to one propelling shafts. No. of primary pinions to each set of reduction gearing: Two
 Astern One ~~LP - Reaction~~ double reduction geared } Falk Corporation
 Direct coupled to { Alternating Current Generator - phase - periods per second } rated - Kilowatts - Volts at - revolutions per minute;
 Direct Current Generator }
 Propelling Motors, Type: -
 Direct coupled, single or double reduction geared to - propelling shafts.

TURBINE STAGING.	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 1/2"	8	1 5/8"-2 1/8"	4'-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		Reaction		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		Impulse							

Shaft Horse Power at each turbine: H.P. 3500 I.P. 3500 L.P. 3500
 Total Shaft diameter at journals: H.P. 5" I.P. 9" L.P. 9"
 Pitch Circle Diameter: 1st pinion LP 19.851" 2nd pinion 18.750" main wheel 18.750"
 Width of Face: 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 - 5" 2nd - 5" Pinion Shafts, diameter at bearings: External 1st { 5, 14 } 2nd { 5, 14 } diameter at bottom of pinion teeth: 1st LP - 9.657 2nd LP - 19.493

Wheel Shafts, diameter at bearings: 1st - 5" 2nd - 5" diameter at wheel shroud: 1st - 5" 2nd - 5" Generator Shaft, diameter at bearings: - 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.

Condenser: Yes No. of Turbines fitted with astern wheels: One Feed Pumps: No. and size: Two - Cent. 4st, Hor. 190 gpm. One - 10x7x24 130 gpm. How driven: Two Turbines and one steam Reciprocating

Pumps connected to the Main Bilge Line: (No. and size) One - 275 gpm. - 3". One 200gpm - 4". One - 400gpm - 4" How driven: Steam Motor Steam

Ballast Pumps, No. and size: One - Cent. 200gpm One - 12x8x12 - 400gpm 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 Tumble 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: - 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.

Is a Report on Main Boilers now forwarded? Yes No

Is ^{a Donkey} _{an Auxiliary} Boiler fitted? - If so, is a report now forwarded? -

Plans. Are ^{AB} 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. Gearing 11, March. Wheel shaft - Thrust shaft - Intermediate shafts 26, Nov. 1948 Tube shaft - Screw shaft 5, Oct. 1948 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 1949 Completion of pumping arrangements 7 March 1949. Boilers fixed 7, 20 December 1948 Engines tried under steam 2 - 10 March 1949 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 O H Steel Identification Mark 422 - 300 - 1 Thrust shaft, Material - Identification Mark - Intermediate shafts, Material O H Steel Identification Marks #1-1694-01-361Y #2-1693-01-367Y Tube shaft, Material - Identification Marks - Screw shaft, Material O H 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 No Have the requirements of the Rules for the use of oil as fuel been complied with Yes No

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 Yes 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 survey 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 good 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, above 150°F. 3.49 made in the Register Book.

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

C. A. Haman
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **NEW YORK APR 27 1949**
Assigned L.M.C. 3, 49.



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