

REPORT ON STEAM TURBINE MACHINERY.

No. 7699

20 JUL 1942

Received at London Office

4a.

Date of writing Report 15th June 42 When handed in at Local Office 23rd June 42 Port of Baltimore, Maryland
 Date, First Survey 19th Dec. 1941 Last Survey 9th May 1942
 Survey held at Baltimore, Maryland (Number of Visits 29)
 Reg. Book. S.S. "COLINA" Tons Gross 9930
 on the S.S. "COLINA" Net 5907
 Built at Sparrows Point, Md. By whom built Bethlehem Steel Co. Yard No. 4358 When built 1942
 Engines made at Lynn, Mass. By whom made General Electric Co. Engine No. LP 45797 When made 1942
 Boilers made at Carteret, N.J. By whom made Foster Wheeler Corp. Boiler No. 457 When made 1941
 Shaft Horse Power at Full Power 12000 Owners Socony-Vacuum Oil Co. Port belonging to New York
 Nom. Horse Power as per Rule 1884 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 Cross compound turbines and double reduction gear.

No. of Turbines Two Direct coupled, single reduction geared, double reduction geared to One propelling shafts. No. of primary pinions to each set of reduction gearing Two
 Direct coupled to Alternating Current Generator phase - periods per second - rated - Kilowatts - Volts at - revolutions per minute;
 supplying power for driving - Propelling Motors, Type -
 rated - 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.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
EXPANSION	.75"	29.35"	1				2.08"	45.14"	1	.77"	50.458"	
"	.79"	25.54"	1				2.64"	45.83"	1	.91"	50.738"	2
"	.92"	25.80"	1				3.54"	47.328"	1	4.635"	54.422"	1
"	.97"	25.90"	1				4.16"	48.348"	1			
"	1.14"	26.24"	1				5.30"	49.988"	1			
"	1.395"	26.608"	1				7.40"	52.40"	1			
"	1.14"	26.24"	1				9.32"	54.63"	1			
"	1.34"	26.64"	1				11.38"	57.213"	1			
"	1.68"	27.32"	1									
"	2.24"	28.44"	1									
"												
"												

Shaft Horse Power at each turbine H.P. 6000 I.P. - L.P. 6000 Revolutions per minute, at full power, of each Turbine Shaft
 Diameter of shaft at journals H.P. 4.00 both ends Gear Pitch Circle 1st pinion LP 10.60" 2nd pinion LP 14.20" 1st reduction wheel LP 66.60" main wheel 145.33" Width of Face 1st reduction wheel 22.5" main wheel 47.5"
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion HP & LP 16-7/8" 1st reduction wheel HP & LP 17"
 Pinion Shafts, diameter at bearings 1st HP 11.00" LP 11.00" diameter at wheel shroud, main 24.00" Generator Shaft, diameter at bearings 1st 11.375" Propelling Motor Shaft, diameter at bearings main 26.75"
 Intermediate Shafts, diameter as per rule 19.4" as fitted 19.5" Thrust Shaft, diameter at collars as per rule - as fitted - Tube Shaft, diameter as per rule - as fitted -
 Low Shaft, diameter as per rule 21-1/16" as fitted 22-22-1/16" Is the screw shaft fitted with a continuous liner Yes Bronze Liners, thickness in way of bushes as per rule .95" as fitted 1-1/8"
 Thickness between bushes as per rule .712" as fitted 1-7/64" 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 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 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 over appliance fitted at the after end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 7' - 4"
 Propeller, diameter 19' 8" Pitch 18' 10" No. of Blades 4 State whether Moveable No Total Developed Surface - square feet.
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. Turbine exhaust direct to the condenser Yes No. of Turbines fitted with astern wheels 1 Feed Pumps No. and size 3 - 250 gals. per min at 4000 revs. How driven Steam turbine 6-stage horoz. centr. DeLaval
 Pumps connected to the Main Bilge Line No. and size 1-400 GPM 1-175 GPM 1-75 GPM 1-75 GPM How driven Rot. Turb. Rot. Motor Rot. Turb. Rot. Turb. 2 Vert. Rotary 19 - 25 HP motors 450 G.P.M.
 Fast Pumps, No. and size 1-300 GPM 1-600 GPM Pump Lubricating Oil Pumps, including Spare Pump, No. and size 2-3" at fwd. end of Engine Room; 4-2" at Fwd. end of Engine Room
 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 2-3" at fwd. end of Engine Room; 4-2" at Fwd. end of Engine Room
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 - 18" Independent Power Pump Direct Suctions to the Engine Room
 Bilges, No. and size 1-4" Are all the Bilge Suction pipes in pump room & peaks 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 Built up sea chests with doublers on shell 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 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 welded spigot
 Do pipes pass through the bunkers None How are they protected -
 Do pipes pass through the deep tanks Fore peak ballast line 3-1/2" 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
 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 - Is it fitted with a watertight door - worked from -

16
BOILERS, &c. (Letter for record) S Total Heating Surface of Boilers 7400 sq. ft.
Is Forced Draft fitted Yes No. and Description of Boilers 2 Foster Wheeler water tube Working Pressure 490 lbs.
Is a Report on Main Boilers now forwarded? Yes
Is { a Donkey } Boiler fitted? No If so, is a report now forwarded?
{ an Auxiliary }
Plans. Are approved plans forwarded herewith for Shafting 18-7-40 Main Boilers 10-7-40 Auxiliary Boilers - Donkey Boilers
(If not state date of approval)
Superheaters 10-7-40 General Pumping Arrangements 18-11-40 Oil Fuel Burning Arrangements 12-6-40
Spare Gear. State the articles supplied: Spare gear has been supplied in excess of the Rule Requirements
copy attached.

The foregoing is a correct description,

BETHLEHEM-SPARROWS POINT
SHIPYARD, INC.
SPARROWS POINT, MD.

J. A. Hodge

Manufact.

Dates of Survey while building { During progress of work in shops - - Nov. 5, 6; Dec. 1, 1941 Jan. 26, Feb. 4, 5, 17, 1942
During erection on board vessel - - 1941 Dec. 9, 20, 23, 26; 1942 Jan 2, 6, 9, 10, 13, 20, Feb. 6, 11, 18, Mar. 2, 6, 17, 18, 21, 23, 26, 28,
Total No. of visits 29

Dates of Examination of principal parts - Casings Nov. 5, 6, 21 Dec. 1, 1941 Rotors Nov. 5, 1941 Feb. 5, 1942 Blading Nov. 5, 1941 Feb. 5, 1942 Gearing Nov. 5, 1941 Feb. 5, 1942
Wheel shaft Nov. 5, 1941 Thrust shaft Integral with wheel shaft Nov. 4, 1941 Oct. 3, 1941 Tube shaft - - - - - Screw shaft 3 Oct. 1941
Propeller 2-4-42 Stern tube 9th Jan. 1942 Engine and boiler seatings Blr. 9th Dec. 1941 Eng. 26th Dec. 1941 Engine, holding down bolts 2nd Mar. 1942
Completion of pumping arrangements 11th Feb. 1942 Boilers fixed 26 Dec. 1941 Engines tried under steam 26th Mar. 1942

Main boiler safety valves adjusted 18th Feb. 1942 Thickness of adjusting washers - - - - - 513 5-11-41
Rotor shaft, Material and tensile strength OH Steel HP 116600 LP 105000 106500 514 5-11-41
Flexible Pinion Shaft, Material and tensile strength None Identification Mark - - - - -
Pinion shaft, Material and tensile strength OH Steel HS HP 109500 HS LP 106000 Identification Mark 505 5-11-41
1st Reduction Wheel Shaft, Material and tensile strength OH Steel LS HP 108000 LS LP 100500 Identification Mark 506 5-11-41
Wheel shaft, Material O H Steel Identification Mark 511 5-11-41 Thrust shaft, Material Integral with wheel shaft Identification Mark 507 5-11-41
Intermediate shafts, Material O.H. Steel Identification Marks 3065 JVCN Tube shaft, Material - - - - - Identification Marks 508 5-11-41
Screw shaft, Material O H Steel Identification Marks 3062 JVCN Steam Pipes, Material Seamless Steel Test pressure 1000 lb

Date of test 6th Feb. 1942 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 Yes If so, state name of vessel Corsicana, Caddo, Calusa, Catawba

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under Survey in accordance with the Society's Rules. Please refer to reports from New York, No. 41994, Boston, Mass.

Nos. 3715, 3676 and 3677 also forging and casting reports which are attached to this report. Same has now been installed and fitted on the vessel inclusive of the erection and completion of the Water Tube Boilers and their accessories and all auxiliaries have been tested under full working conditions and the machinery is in safe working condition and eligible to have the record of * LMC 3,42 fitted for oil fuel 3,42 F.P. above 150° F.

The amount of Entry Fee ... £ 30.00 : When applied for,
Special ... £ 207.50 : June 2, 1942
Economisers ... £ 56.50 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 34.75 : When received,
Early fee 10.00

Wm. B. Cowin
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK JUL 1 1942

Assigned * LMC - 5,42

NOTE - CL
2 WTB (clt) 490 lbs.



© 2020
Lloyd's Register
Foundation