

REPORT ON STEAM TURBINE MACHINERY. No. 3715

Received at London Office 20 JUL 1942

4a. Date of writing Report Mar. 23, 1942 When handed in at Local Office Port of Boston, Massachusetts
 in Survey held at Lynn, Mass. Date, First Survey Nov. 5, 1941 Last Survey Feb. 17, 1942
 Reg. Book. on the Hull No. 4358 - 5/5 "Colina" (Number of Visits 7)
 Tons { Gross _____ Net _____
 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. HP 45796 LP 45797 When made 1942
 Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
 Shaft Horse Power at Full Power 12,000 Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted Yes
 Made for which Vessel is intended _____

STEAM TURBINE ENGINES, &c.—Description of Engines Cross Compound Turbines and double reduction gears.

No. of Turbines Two Ahead One Direct coupled, single reduction geared } to ONE propelling shafts. No. of primary pinions to each set of reduction gearing Two
 Astern One double reduction geared }
 Not coupled to { Alternating Current Generator phase _____ periods per second _____ Volts at _____ revolutions per minute;
 supplying power for driving Direct Current Generator { rated _____ Kilowatts _____
 Propelling Motors, Type _____
 Direct coupled, single or double reduction geared to _____ propelling shafts.

	H. P.			I. P.			L. P.			ASTERN.		
EXPANSION	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	0.75"	29.35"	1				2.08"	45.14"	1	0.77"	50.458"	2
"	0.79"	25.54"	1				2.64"	45.83"	1	4.635"	50.738"	1
"	0.92"	25.80"	1				3.54"	47.328"	1			
"	0.97"	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. 6,000 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5978 1st reduction wheel 727
 { L.P. 6,000 { HP 10,600 HP 87,200 main shaft 105
 { H.P. 4,000 Both ends { 1st pinion LP 14,200 reduction wheel LP 66,600 Width of Face { 1st reduction wheel 22.5"
 { I.P. 6.50" Gear end { 2nd pinion 21,000 main wheel 145.33" { main wheel 47.5"
 { L.P. 8.00" Exh. end { 1st pinion HP & LP 16-7/8" 1st reduction wheel HP & LP 17"
 { 2nd pinion 2'-10-1/4" main wheel 2'-10-1/2" HP 10.087"
 { LP 8.000" { 1st 14.000" { 1st HP 13.819"
 { Solid 2nd 10-1/2" { 2nd LP 20.353"
 { 1st 11-3/8" Generator Shaft, diameter at bearings _____
 { main 26-3/4" Propelling Motor Shaft, diameter at bearings _____
 Pinion Shafts, diameter at bearings _____
 External 1st _____
 Internal 1st _____
 2nd _____
 2nd _____
 Gear Shaft, diameter at bearings _____
 1st 11.000" diameter at wheel shroud, _____
 main 24.00" _____
 Intermediate Shafts, diameter as per rule _____ as fitted _____
 Thrust Shaft, diameter at collars as per rule _____ as fitted 11.749"
 Main Shaft, diameter as per rule _____ as fitted _____
 Screw Shaft, diameter as per rule _____ as fitted _____
 Is the { tube } shaft fitted with a continuous liner { _____
 { screw } _____
 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 _____
 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 Yes Can the H.P. XXX Turbine exhaust direct to the _____
 denser Yes No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size _____
 { How driven _____
 Pumps connected to the Main Bilge Line { No. and size _____
 { How driven _____
 Bilge 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 _____
 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 _____
 at pipes pass through the bunkers _____ How are they protected _____
 at 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 _____
 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 _____ 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?

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

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

Plans. Are approved plans forwarded herewith for Shafting
(If not state date of approval)

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied Please see attached list.

The foregoing is a correct description,

R. E. Grube Gen. Elect. Engr.

Dates of Survey { During progress of work in shops -- } Nov. 5, 6, Dec. 1, 1941 Jan. 26, Feb. 4, 5, 17, 1942
{ During erection on board vessel --- }
building { Total No. of visits } 7 visits Dec. 1, 1941 Feb. 5, 1942 Feb. 5, 1942 Feb. 1942
Nov. 5-6-21 Rotors Nov. 5, 1941 Blading Nov. 5, 1941 Gearing Nov. 5, 1941

Dates of Examination of principal parts—Casings Wheel shaft Nov. 5, 1941 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 513 5-11-41
OH Steel HP 116,600 LP 105,000 106,500 Identification Mark 514 5-11-41
Rotors shaft, Material and tensile strength HP 118,000 LP 105,000 104,000

Flexible Pinion Shaft, Material and tensile strength Identification Mark 505 5-11-41

Pinion shaft, Material and tensile strength OH Steel HS HP 109,500 HS LP 106,000 Identification Mark 506 5-11-41

1st Reduction Wheel Shaft, Material and tensile strength OH Steel LS HP 108,000 LS LP 100,500 Identification Mark 507 5-11-41

Wheel shaft, Material OH Steel Identification Mark 511 5-11-41 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.) This machinery has been constructed under

Special Survey in accordance with the approved plans. The workmanship and materials are

good. The installation has been tried out in the shop under 1/3 full power and found

satisfactory. The unit has been forwarded to Bethlehem Steel Company, Sparrows Point, Md.

When the installation has been satisfactorily installed aboard the vessel and to the

satisfaction of the Surveyor, it will, in my opinion, be eligible to receive the record of

LCMC with date.

The amount of Entry Fee ... £ : : When applied for, 31-3 19 42

Special ... £ \$ 265.00 : : When received, 19

Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ 5.00 : :

Committee's Minute NEW YORK JUL 1 1942

Assigned See First Entry Report.

Thomas Savie
Engineer Surveyor to Lloyd's Register of Shipping



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Foundation