

# REPORT ON STEAM TURBINE MACHINERY. No. 3398

pt. 4a.

Received at London Office

10 JUL 1947

Port of LOS ANGELES HARBOR, CALIF.  
 Date, First Survey MARCH 28<sup>th</sup> Last Survey MAY 11<sup>th</sup> 1947  
 (Number of Visits 16)  
 Reg. Book 4265 on the STEEL SINGLE SCREW STEAMER, "U.S.S.R. VICTORY" Tons { Gross 7612 Net 4555  
 Built at LOS ANGELES, CALIF. By whom built CALIFORNIA S.B. CORP. Yard No. V.3 When built 1944-4  
 Engines made at PHILADELPHIA, PA. By whom made WESTINGHOUSE ELECTRIC MANFG. CO. Engine No. HP-4-A-1330 LP-4-A-1331 When made 1944  
 Boilers made at BARBERTON, OHIO By whom made BABCOCK & WILCOX CO. Boiler No. P-3451-2 6-3451-1 When made 1943  
 Shaft Horse Power at Full Power 8500 Owners INDIA STEAMSHIP CO. LTD. Port belonging to CALCUTTA  
 Nom. Horse Power as per Rule (1561) Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
 Trade for which Vessel is intended CARGO SHIP NHP=1762 MN=2032

## STEAM TURBINE ENGINES, &C.—Description of Engines ONE CROSS COMPOUND DOUBLE REDUCTION GEAR TURBINE

No. of Turbines 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 }  
 Direct coupled to { Alternating Current Generator NO phase NO periods per second NO rated NO Kilowatts NO Volts at NO revolutions per minute;  
 supplying power for driving { Propelling Motors, Type NO  
 Direct Current Generator NO rated NO Kilowatts NO Volts at NO revolutions per minute. Direct coupled, single or double reduction geared to NO propelling shafts.

TURBINE STAGE	H. P.			H. P.			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	1 7/8"	23 1/2"	1				1 7/8"	31"	1	1 3/16"	30 7/8"	1
2nd	2 1/4"	24"	1	13" - 2 7/8"	19"	1	2 1/4"	31 3/4"	1	3 1/4"	32"	1
3rd	1 9/16"	16 3/8"	1	14" - 3 1/16"	19 3/8"	1	2 7/16"	32 5/8"	1	2 27/32"	31 15/16"	1
4th	1 5/8"	16 1/2"	1	15" - 3 1/4"	19 3/4"	1	3 1/4"	33 3/4"	1	3 5/8"	33"	1
5th	1 3/4"	16 3/4"	1	16" - 3 1/2"	20 1/4"	1	4"	35 1/4"	1			
6th	1 7/8"	17"	1				5"	37 1/4"	1			
7th	2"	17 1/4"	1				6"	39 1/4"	1			
8th	2 1/8"	17 1/2"	1				7"	41 1/4"	1			
9th	2 3/16"	17 5/8"	1				8 17/32"	44 5/16"	1			
10th	2 1/4"	17 3/4"	1				10 5/8"	48 1/2"	1			
11th	2 7/16"	18 1/8"	1									
12th	2 3/8"	18 1/2"	1									

Shaft Horse Power at each turbine { H.P. 4250 L.P. 4250 }  
 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5358 L.P. 4422 }  
 Propeller Shaft diameter at journals { H.P. FORD 4" L.P. ACT 5" } Pitch Circle Diameter { 1st pinion 16" 2nd pinion 18 1/4" }  
 Width of Face { 1st reduction wheel 42" main wheel 22" }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 16" 2nd pinion 18 1/4" }  
 1st reduction wheel 42" main wheel 22"  
 Pinion Shafts, diameter at bearings { External H.P. 5" L.P. 5" }  
 Internal H.P. 5" L.P. 5" } diameter at bottom of pinion teeth { 1st NO 2nd NO }  
 Propeller Shaft, diameter at bearings { 1st NO }  
 Generator Shaft, diameter at bearings NO  
 Propelling Motor Shaft, diameter at bearings NO

Intermediate Shafts, diameter as per rule YES as fitted 19" }  
 Thrust Shaft, diameter at collars as per rule YES as fitted 16" }  
 Tube Shaft, diameter as per rule YES as fitted 16" }  
 Propeller Shaft, diameter as per rule YES as fitted 21" }  
 Is the tube screw shaft fitted with a continuous liner YES }  
 Bronze Liners, thickness in way of bushes as per rule YES as fitted 1" }  
 Thickness between bushes as per rule YES as fitted 1" }  
 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 YES }  
 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 NO }  
 If two liners are fitted, is the shaft lapped or protected between the liners NO }  
 Is an approved Oil Gland other appliance fitted at the after end of the tube shaft NO }  
 Length of Bearing in Stern Bush next to and supporting propeller 7'-0 1/2" }  
 Propeller, diameter 20.5 FT Pitch 6R-22.9' No. of Blades 4 State whether Moveable FIXED Total Developed Surface NO square feet.  
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES }  
 Can the H.P. or L.P. Turbine exhaust direct to the denser YES }  
 No. and size TWO-11"x7"x24"-SIMPLEX }  
 No. and size ONE-TURBO UNIT-185-G.P.M. }  
 How driven STEAM }

Pumps connected to the Main Bilge Line { No. and size THREE 10"x11"x12"-DUPLEX (G.S.P.-BILGE.-G.S.P. STANDBY) }  
 How driven STEAM }  
 Bilge Pumps, No. and size TWO 10"x11"x12"-DUPLEX Lubricating Oil Pumps, including Spare Pump, No. and size ONE 7 1/2"x9"x12"-STEAM DUPLEX }  
 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 3" DIA. & FOUR 2 1/2" DIA. IN COFFERDAMS.- ONE 3" DIA. TUNNEL }  
 Holds, &c. ONE 3" DIA. IN NOS 1 & 5 HOLDS - TWO 3" DIA. IN NOS 2-3 & 4 HOLDS }  
 Bilge Suctions, No. and size ONE 16" DIA. Independent Power Pump Direct Suctions to the Engine Room NO }  
 No. and size ONE 5" DIA. }  
 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 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 NO }  
 How are they protected NO }  
 Are they fitted with Valves or Cocks NO }  
 Have they been tested as per rule NO }  
 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 YES }  
 Is it fitted with a watertight door YES }  
 How worked FROM E.R. FLOOR LEVEL OPERATED BOTH SIDES }

BOILERS, &c.— (Letter for record ) Total Heating Surface of Boilers 16440 SQ. FT.  
 Is Forced Draft fitted YES No. and Description of Boilers TWO S.M. TYPE WATER TUBE BOILERS Working Pressure 525 LBS.  
 Is a Report on Main Boilers now forwarded? YES  
 Is { a Donkey } Boiler fitted? - If so, is a report now forwarded? -  
 { an Auxiliary }  
 Plans. Are approved plans forwarded herewith for Shafting - Main Boilers - Auxiliary Boilers - Donkey Boilers -  
 (If not state date of approval)

Superheaters - General Pumping Arrangements ✓ Oil Fuel Burning Arrangements -  
 Spare Gear. State the articles supplied:— AS PER RULE REQUIREMENTS.

PLANS ATTACHED HEREWITH:  
 DWG - N° S - 43-1-1-A113 - "ARRGT. OF SHAFTING"  
 " - N° S - 43-1-2 - DETAIL OF SHAFTING, STEEVE, COUPLING BOLTS & PROPELLER NUT.  
 " - N° S - 48-1-101 - BILGE AND CLEAN BALLAST SYSTEM.  
 " - N° S - 48-1-102 - FUEL OIL AND OILY BALLAST SYSTEM.  
 " - N° S - 355-1-100 - FUEL OIL SERVICE SYSTEM.

BOILER PLANS SENT WITH 1<sup>st</sup> ENTRY REPORT ON THE S.S. "UNITED STATES VICTORY" L.A.N. RPT. N° 3.  
 not received in London on 14/8/47 SW

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - - }  
 { During erection on board vessel - - - }  
 { Total No. of visits } SURVEYED BY AMERICAN BUREAU OF SHIPPING.

Dates of Examination of principal parts— Casings - Rotors - Blading - Gearing -  
 Wheel shaft - Thrust shaft - Intermediate shafts - Tube shaft - Screw shaft -  
 Propeller - Stern tube - Engine and boiler seatings - Engine holding down bolts -  
 Completion of pumping arrangements - Boilers fixed - Engines tried under steam MAY 9 1947  
 Main boiler safety valves adjusted MAY 7 1947 Thickness of adjusting washers -  
 Rotor shaft, Material and tensile strength STEEL Identification Mark -  
 Flexible Pinion Shaft, Material and tensile strength STEEL Identification Mark -  
 Pinion shaft, Material and tensile strength STEEL Identification Mark -  
 1st Reduction Wheel Shaft, Material and tensile strength STEEL Identification Mark -  
 Wheel shaft, Material STEEL Identification Mark - Thrust shaft, Material STEEL Identification Mark -  
 Intermediate shafts, Material STEEL Identification Marks - Tube shaft, Material - Identification Marks -  
 Screw shaft, Material STEEL Identification Marks - Steam Pipes, Material STEEL Test pressure 788 LBS.

Date of test APRIL 29<sup>th</sup> 1947 Is an installation fitted for burning oil fuel YES  
 Is the flash point of the oil to be used over 150°F. (NO) 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 NO 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 S.S. "TEMPLE VICTORY" - L.A.N. RPT. 3

General Remarks (State quality of workmanship, opinions as to class, &c.) THE MACHINERY AND BOILERS OF THIS VESSEL WERE CONSTRUCTED UNDER THE SPECIAL SURVEY OF THE SURVEYORS TO THE AMERICAN BUREAU OF SHIPPING. THE CONDITION AND STANDARD OF WORKMANSHIP IS CONSIDERED TO BE GOOD AND SATISFACTORY. THE MAIN AND AUXILIARY MACHINERY EXAMINED UNDER WORKING CONDITIONS AND FOUND SATISFACTORY. THE MAIN AND AUXILIARY MACHINERY, AS FAR AS NOW SEEN (SEE RPT. 9) ARE IN GOOD CONDITION. THE MACHINERY OF THIS VESSEL, AS FAR AS NOW SEEN, IS ELIGIBLE, IN MY OPINION TO BE CLASSIFIED WITH THIS SOCIETY, WITH RECORD OF L.M.C. 5-47, AND IS RECOMMENDED FOR THE FAVOURABLE CONSIDERATION OF THE COMMITTEE.

The amount of Entry Fee	£	✓	When applied for,
Special	£	652.00	MAY 10 1947
Donkey Boiler Fee	£		When received,
Travelling Expenses (if any)	£	3.00	MAY 23 1947

S. J. Boomer  
 Engineer Surveyor to Lloyd's Register of Shipping.

NEW YORK JUN 11 1947 J. G. J.

Committee's Minute  
 Assigned: L.M.C. 5-47.

