

# Report on Steam Turbine Machinery.

No. 105632

4a.

Received at London Office 29 OCT 1948  
 Date of writing Report 19 When handed in at Local Office 12 OCT 1948 Port of NEWCASTLE-ON-TYNE  
 Survey held at WALLSEND Date, First Survey 31/8/48 Last Survey 23/9/48  
 Book No. 702 on the TURBO ELECT SS. "BEECHER ISLAND" (Number of Visits 18)  
 Tons { Gross 10,668  
 Net 6,317  
 Built at MOBILE By whom built ALABAMA D.D. SHIPBUILDING YARD No. 2043 When built 1944  
 Engines made at LYNN MASS By whom made GENERAL ELECTRIC CO Engine No. 68256 When made 1944  
 Boilers made at NEW YORK By whom made COMBUSTION ENGINEERING INC Boiler No. 7863-4 When made 1944  
 Shaft Horse Power at Full Power 6,600 Owners BRITISH TANKER CO Port belonging to LONDON  
 Nom. Horse Power as per Rule 1485 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES  
 Made for which Vessel is intended CARRYING PETROLEUM IN BULK.

STEAM TURBINE ENGINES, &c.—Description of Engines. TURBO ELECTRIC.  
 Ahead ONE Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing.  
 Astern.  
 Direct coupled to Alternating Current Generator 3 phase 62 periods per second rated 5,400 Kilowatts 2,370 Volts at 3,715 revolutions per minute;  
 supplying power for driving ONE Propelling Motors, Type MARINE SYNCHRONOUS  
 rated 5,400 Kilowatts 2,370 Volts at 93 revolutions per minute. Direct coupled, single or double reduction geared to ONE 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.
1st Expansion	7/8"	3 1/4"	2									
2nd "	1"	3 1/2"	1									
3rd "	1 1/4"	3 3/4"	1									
4th "	1 3/8"	3 5/4"	1									
5th "	7/8"	4 1/2"	1									
6th "	1 3/8"	4 3/4"	1									
7th "	2 1/8"	4 5/2"	1									
8th "	2 1/2"	4 7"	1									
9th "	5 1/2"	4 9 1/2"	1									
10th "	9"	5 6"	1									

Shaft Horse Power at each turbine H.P. 6,600 I.P. ✓ L.P. ✓  
 Revolutions per minute, at full power, of each Turbine Shaft H.P. 3,715 I.P. ✓ L.P. ✓  
 1st reduction wheel ✓  
 main shaft ✓ 90

Shaft diameter at journals H.P. ✓ I.P. ✓ L.P. ✓ Pitch Circle Diameter { 1st pinion ✓ 1st reduction wheel ✓ 2nd pinion ✓ main wheel ✓ Width of Face { 1st reduction wheel ✓ main wheel ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion ✓ 1st reduction wheel ✓ 2nd pinion ✓ main wheel ✓

Pinion Shafts, diameter at bearings External { 1st ✓ 2nd ✓ Internal { 1st ✓ 2nd ✓ diameter at bottom of pinion teeth 1st ✓ 2nd ✓

Generator Shaft, diameter at bearings main ✓ Propelling Motor Shaft, diameter at bearings main ✓ Thrust Shaft, diameter at collars as per rule 17 3/4" as fitted 17 1/2" - 10" AT COLLAR

Shaft diameter as per rule 18.185" as fitted 18 5/8" Is the tube screw shaft fitted with a continuous liner YES

Size Liners, thickness in way of bushes as per rule .850" as fitted 1 1/8" Thickness between bushes as per rule .643" as fitted 1" Is the after end of the liner made watertight in the

eller boss YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner. ✓  
 e 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. ✓  
 o 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 7' 4" ✓

eller, diameter 19' 6" Pitch 17' 6" No. of Bades 4 State whether Moveable No Total Developed Surface 138" square feet.  
 angle Screw, are arrangements made so that steam can be led direct to the L.P. Turbine. ✓ Can the H.P. or P. Turbines exhaust direct to the

enser YES No. of Turbines fitted with astern wheels NONE Feed Pumps { No. and size 2 TURBO 200 GALS/MIN 1-10" x 1" x 24" How driven STEAM

ps connected to the Main Bilge Line { No. and size 1 FIRE & BUTTERWORTH 450 GALS/MIN 1 FIRE & GENERAL SERVICE 450 GALS/MIN How driven ELECTRICALLY 2 BILGE 175 GALS/MIN EACH

st Pumps, No. and size FIRE & GEN SERVICE PUMP Lubricating Oil Pumps, including Spare Pump, No. and size 2 60 GALS/MIN EACH  
 CONNECTED TO BALLAST MAIN  
 wo independent means arranged for circulating water through the Oil Cooler YES Suctions, connected both to Main Bilge Pumps and Auxiliary

Pumps, No. and size:—In Engine and Boiler Room 2-3" COFF FORD 1-3" FATMETER COMPARTMENT In Pump Room 1-4"  
 s, &c. 6-3" DIA 1-3 1/2" DIA BILGE WELL 1-3 1/2" DIA DRYWELL 1-3 1/2" BOILER RN DRAIN 1-3" L.O. SUMP COFFERDAM 1-3" PROPELLER MOTOR RECESS

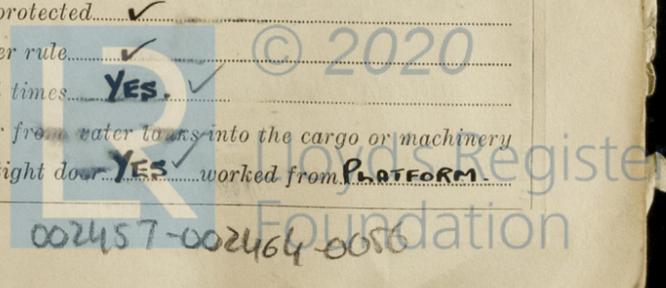
Water Circulating Pump Direct Bilge Suctions, No. and size 1-10" Dia. 1 1/8" Independent Power Pump Direct Suctions to the Engine Room  
 s, No. and size 2-4" DIA. Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes (MULLUM STRAINERS) YES

he 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  
 ll Sea Connections fitted direct on the skin of the ship. STEEL PADS WELDED TO SHELL Are they fitted with Valves or Cocks VALVES

hey 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  
 BELOW Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. YES Are the Blow Off VALVES EQUIVALENT.  
 ing plate. YES What pipes pass through the bunkers. NONE How are they protected. ✓

pipes pass through the deep tanks. NONE Have they been tested as per rule. ✓  
 ll Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times. YES

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  
 s, or from one compartment to another. YES Is the Shaft Tunnel watertight. YES Is it fitted with a watertight door. YES worked from PLATFORM



**BOILERS, &c.**—(Letter for record) Total Heating Surface of Boilers 11,354 sqft.  
 Is Forced Draft fitted YES No. and Description of Boilers TWO S.M. TYPE Working Pressure 500 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  
 Is the donkey boiler intended to be used for domestic purposes only? ✓  
 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.**  
 Has the spare gear required by the Rules been supplied YES (EXCEPT SPARE PROPELLER)  
 State the principal additional spare gear supplied

The foregoing is a correct description,

Dates of Survey while building: During progress of work in shops - - -  
 During erection on board vessel - - - SEE REPORT L.A.  
 Total No. of visits 18

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 fitting sea connections. Completion of pumping arrangements. Boilers fixed. Engines tried under steam.  
 Main boiler safety valves adjusted. Thickness of adjusting washers.  
 Rotor shaft, Material and tensile strength. Identification Mark.  
 Flexible Pinion Shaft, Material and tensile strength. Identification Mark.  
 Pinion shaft, Material and tensile strength. Identification Mark.  
 1st Reduction Wheel Shaft, Material and tensile strength. Identification Mark.  
 Wheel shaft, Material. Identification Mark. 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. 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. ✓  
 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. YES If so, state name of vessel. T.R. TYPE TANKERS

**General Remarks.** (State quality of workmanship, opinions as to class, &c.)  
 The machinery of this vessel has been constructed under the survey of the U.S. Coast Guard and the American Bureau of Shipping. Materials and workmanship are considered good. The scantlings and general arrangements have been checked and found in accordance with the plans aboard the vessel. The machinery was examined under full power conditions and found in good working order, and eligible in my opinion to haul records of L.M.C. 9-48, W.I.B.S. 9-48 F.D. T.S.C.H.(N) 1-48 as previously recommended. Fitted for oil fuel F.P. above 150°  
DRUM 500 lbs. SUPR 473 lbs. HEATING SURFACE: 11,354 sqft.

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

	£	:	When applied for.
The amount of Entry Fee	...	...	19
Special	...	...	19
Donkey Boiler Fee	...	...	When received.
Travelling Expenses (if any)	£	:	19

D.D. McAntym  
 Engineer Surveyor to Lloyd's Register of Shipping.

**FRI. 10 DEC 1948**

Committee's Minute  
 Assigned

