

## Report on Steam Turbine Machinery.

No. 111137  
23 APR 1954  
11 FEB 1954

Rpt. 4a.

Date of writing Report 19... When handed in at Local Office 10-2-1954 Port of NEWCASTLE-ON-TYNE  
 No. in Survey held at... Date, First Survey 25-8-53 Last Survey 5-1-1954  
 Reg. Book... (Number of Visits 7)  
 on the "MELIKA"  
 Built at HAVERTON HILL ON TEES By whom built FURNESS S.B. CO LTD Yard No. 462  
 GEARING. WALLSEND-ON-TYNE By whom made THOMPSON'S MARINE STEAM TURBINE CO LTD ENGLAND No. 431  
 Engines made at WEST HARTLEPOOL. By whom made RICHARDSON'S WESTGARDING CO LTD Engine No. 2737  
 Boilers made at... By whom made... Boiler No. ...  
 Shaft Horse Power at Full Power 13750 Owners GULF OIL CORPORATION. When made 1954  
 Nom. Horse Power as per Rule 2750. Is Refrigerating Machinery fitted for cargo purposes...  
 Trade for which Vessel is intended OCEAN SERVICE. Is Electric Light fitted...

## STEAM TURBINE ENGINES, &amp;c.—Description of Engines D.R. GEARED STEAM TURBINES.

No. of Turbines Ahead 2 Direct coupled, single reduction geared to ONE propelling shafts. No. of primary pinions to each set of reduction gearing Two  
 Astern 1 double reduction geared  
 direct coupled to Alternating Current Generator phase... periods per second... rated... Kilowatts... Volts at... revolutions per minute;  
 for supplying power for driving Propelling Motors, Type...  
 rated... Kilowatts... Volts at... revolutions per minute. Direct coupled, single or double reduction geared to ONE propelling shafts.

## TURBINE BLADING.

	H.P.	I.P.	L.P.	ASTERN.
Impulse Blading	No. of rows			
Reaction Blading	No. of stages			
	No. of rows in each stage			

Shaft Horse Power at each turbine H.P. 6700 ✓ I.P. — L.P. 7050 ✓  
 Rotor Shaft diameter at journals H.P. — I.P. — L.P. —  
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings  
 Flexible Pinion 1st LP 8" 2nd 8 1/2"  
 Pinion Shafts, diameter at bearings External 1st 10" ✓ Internal 1st 7" 2nd 15"  
 Wheel Shafts, diameter at bearings 1st 10" ✓ main 22 1/4" ✓  
 Intermediate Shafts, diameter as per rule... as fitted...  
 Tube Shaft, diameter as per rule... as fitted...  
 Screw Shaft, diameter as per rule... as fitted...  
 Thrust Shaft, diameter at collars as per rule... as fitted...  
 Is the { tube } shaft fitted with a continuous liner { screw }

Generator Shaft, diameter at bearings...  
 Propelling Motor Shaft, diameter at bearings...  
 Condenser... No. of Turbines fitted with astern wheels...  
 Pumps connected to the Main Bilge Line { No. and size } How driven...  
 Ballast Pumps, No. and size... Lubricating Oil Pumps, including Spare Pump, No. and size...  
 Are two independent means arranged for circulating water through the Oil Cooler...  
 Bilge Pumps, No. and size:—In Engine and Boiler Room... In Pump Room...  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size... Independent Power Pump Direct Suctions to the Engine Room...  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes...  
 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...  
 Are all Sea Connections fitted direct on the skin of the ship... Are they fitted with Valves or Cocks...  
 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...  
 Are 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...  
 What pipes pass through the bunkers... How are they protected...  
 Have they been tested as per rule...  
 Are 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...  
 Is the Shaft Tunnel watertight... Is it fitted with a watertight door... worked from...

Is the after end of the liner made watertight in the propeller boss...  
 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...  
 Length of Bearing in Stern Bush next to and supporting propeller...  
 State whether Moveable... Total Developed Surface... square feet...  
 Can the H.P. or I.P. Turbines exhaust direct to the...  
 No. of Turbines fitted with astern wheels...  
 Feed Pumps { No. and size } How driven...  
 No. and size... How driven...  
 Lubricating Oil Pumps, including Spare Pump, No. and size...  
 Suctions, connected both to Main Bilge Pumps and Auxiliary...  
 In Pump Room...

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes...  
 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...  
 Are all Sea Connections fitted direct on the skin of the ship... Are they fitted with Valves or Cocks...  
 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...  
 Are 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...  
 What pipes pass through the bunkers... How are they protected...  
 Have they been tested as per rule...  
 Are 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...  
 Is the Shaft Tunnel watertight... Is it fitted with a watertight door... worked from...

Boilers, &c.—(Letter for record... Total Heating Surface of Boilers...  
 Forced Draft fitted... No. and Description of Boilers... Working Pressure...  
 a Report on Main Boilers now forwarded? NO



Is { a Donkey Boiler fitted? ☐ If so, is a report now forwarded? ☒ No  
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 ☐  
Geared turbines situated aft. Have torsional vibration characteristics of system been approved. ☒ YES Date of approval. 13/11/51  
SPARE GEAR. ARRANGEMENT OF GEARING. 13/11/51.  
Has the spare gear required by the Rules been supplied. ☒ YES  
State the principal additional spare gear supplied. -

SEE. WEST HARTLEPOOL CERTIF. NO. C. 2059.  
FOR FABRICATION OF GEAR CASE.

The foregoing is a correct description.

OR  
THE PARSONS MARINE STEAM TURBINE CO. LIMITED.

Dates of Survey while building  
During progress of work in shops - (1951) AUG. 25. SEPT. 13. OCT. 13. NOV. 24. DEC. 14. (1951) JAN. 5.  
During erection on board vessel - - -  
Total No. of visits. 7  
MANAGING DIRECTOR

Dates of Examination of principal parts—Casings. ☐ Rotors. ☐ Blading. ☐ Gearing. 24. 11. 53.  
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. 31-35 TONS 1/2" HP. 29948 CD. 29  
Pinion shaft, Material and tensile strength. EN. 25. 2 1/2% MOLY. NICKEL CHROME STEEL. 55/65 TON 1/2" HP. 30881 CD. 18  
Identification Mark. LP 30882 CD  
; Chemical analysis. SEE NWC. LETTER. 11.7.52.

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment.  
1st Reduction Wheel Shaft, Material and tensile strength. FORGED STEEL 31-35 TONS 1/2" Identification Mark. 24725-17890  
Wheel shaft, Material. FORGED STEEL 31-35 TONS 1/2" Identification Mark. 30878 HAS. 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.) The unmachined gear case was delivered to after fabrication by Richardson's Westgarths - see WHP. certif. C. 2059.  
The gearcase & gearing have been constructed under special Survey in accordance with approved plans and the requirements of the Rules or their equivalent, the gears meshed their bearings found satisfactory. The materials & workmanship are good.  
The gearing has been sent to Richardson's Westgarths West Hartlepool for erection with the Turbines.  
It is submitted for the favourable consideration of the Committee that the gearing is suitable for service with the steam turbines classed +LMC (with date) when they have been completed following full power trials as required by The Secretaries Letter dated 14/11/51.

40% of £180-10-0  
The amount of Entry Fee ... £72-4-0  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for Nov. to be credited with £72-4-0.  
When received.

W. Nicholson - T.O. Winter  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned  
TUESDAY 7 - DEC 1951  
See Ref. Ha.



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Foundation