

REPT. 4a.

REPORT ON STEAM TURBINE MACHINERY.

No. 103731

Date of writing Report

10

When handed in at Local Office

30/5/46

Port of

NEWCASTLE-ON-TYNE

Received at London Office

29 OCT 1946

No. in Survey held at

Newcastle on Tyne

Date, First Survey (1946) April 9th

Last Survey May 16th 1946

Reg. Book.

on the

JOHN HOLT.

(Number of Visits 8)

Built at

Birkenhead

By whom built

Cammell Laird & Co

Yard No. 1171

Tons

Gross

Net

When built 1946

Engines made at

Birkenhead

By whom made

Cammell Laird & Co

Engine No. 1171

When made 1946

Engines made at

Newcastle

By whom made

Swan Hunter & Wigham

Engine No. B.W. 157

When made 1946

Shaft Horse Power at Full Power 122

Owners

Port belonging to

Nom. Horse Power as per Rule 122

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which Vessel is intended

Off & 1HP 1750 Reg. 2 Total 1HP 2500

STEAM TURBINE ENGINES, &c.—Description of Engines BAUERWACH L.P. TURBINE WITH D.R. GEARING & VULCAN COMP.

No. of Turbines Ahead ONE Direct coupled, single reduction geared to ONE propelling shafts. No. of primary pinions to each set of reduction gearing ONE

direct coupled to Alternating Current Generator phase periods per second Direct Current Generator 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 propelling shafts.

TURBINE BLADING.

	BLADES.	AT TIP.	ROWS.	BLADES.	AT TIP.	ROWS.	BLADES.	AT TIP.	ROWS.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									
9TH									
10TH									
11TH									
12TH									

Shaft Horse Power at each turbine H.P. I.P. L.P. 122 Revolutions per minute, at full power, of each Turbine Shaft H.P. I.P. L.P. 4073 1st reduction wheel 428 main shaft 45

Rotor Shaft diameter at journals H.P. I.P. L.P. 125 Pitch Circle Diameter 1st pinion 162.916 1st reduction wheel 151.126 2nd pinion 352.5093 main wheel 1984.496 265 FOR 225 AFT 1st reduction wheel 260 FOR 1560 FOR 260 FOR 525

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 225 AFT 1st reduction wheel 260 AFT 2nd pinion 422.5 main wheel 525

Flexible Pinion Shafts, diameter 1st 230 FOR 260 AFT 2nd 230 FOR 260 AFT Pinion Shafts, diameter at bearings External 1st 125 2nd 320 Internal 1st 125 2nd 250 diameter at bottom of pinion teeth 1st 148.215 2nd 330.965

Wheel Shafts, diameter at bearings 1st 1445 main 1908 Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule 13.08 as fitted 255 - 13.48

Tube Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the propeller boss

If the liner is in more than one length are the junctions made 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 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 shaft 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. Can the H.P. or I.P. Turbine exhaust direct to the

Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

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 2 - 9x8x18

Are 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

In Holds, &c. Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size 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 line

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 covering plate

What pipes pass through the bunkers How are they protected Have they been tested as per rule

What pipes pass through the deep tanks Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door

BOILERS, &c.—(Letter for record ✓) Total Heating Surface of Boilers ✓
Is Forced Draft fitted ✓ No. and Description of Boilers ✓ Working Pressure ✓
Is a Report on Main Boilers now forwarded? ✓
Is { a Donkey } Boiler fitted? ✓ If so, is a report now forwarded? ✓
Is the donkey boiler intended to be used for domestic purposes only ✓
Plans. Are approved plans forwarded herewith for Shafting 1-8-46 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

State the principal additional spare gear supplied

One bearing for each size fitted
" set of thrust pads for each thrust bearing
" spring one set of washers for emergency governor
" coupling bolt nut for 1st reduction pinion shaft
" " " " 2nd " wheel "

The foregoing is a correct description,

SWAN, HUNTER, & WIGHAM RICHARDSON LTD.

P.L. Lang Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1946 Apr. 9, 12, 29 May 2, 6, 8, 9, 16
During erection on board vessel - - - 8
Total No. of visits 8

Dates of Examination of principal parts—Casings 9-5-46 Rotors 16-5-46 Blading 16-5-46 Gearing 16-5-46

Wheel shaft 16-5-46 Thrust shaft 16-5-46 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 O.H. Steel 39.4 Tons Identification Mark 14692 T 806

Pinion Shaft, Material and tensile strength O.H. Steel 42.0 Tons Identification Mark 14692 T 4476

Pinion shaft, Material and tensile strength O.H. Steel 47.0 Tons Identification Mark 14692 T F 1447

1st Reduction Wheel Shaft, Material and tensile strength O.H. Steel 30.6 Tons Identification Mark 14692 T 811

2nd " " " " " O.H. Steel 31.6 Tons Identification Mark 14692 T 813

Wheel shaft, Material Identification Mark Thrust shaft, Material O.H. Steel Identification Mark 14692 T 811

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 rule requirements & approved plans.

Materials & workmanship are good.

The machinery has been sent to Messrs Cammell Laird & Co. Ltd. Birkenhead.

This machinery has been installed in the JOHN HOLT, tried under full power conditions & found satisfactory.

W. Hunter 30/9/46.

The amount of Entry Fee ... £ : : When applied for, 31 MAY 1946
Special ... £ 12 : 4 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 19

J. H. Matthews
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL - 8 OCT 1946

Assigned See Minute & Liverpool H. Machinery Report.



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Foundation