

REPORT ON STEAM TURBINE MACHINERY. No. 95106

Received at London Office JUN - 7 1937

When handed in at Local Office

4/16/37 Port of

NEWCASTLE-ON-TYNE

Date, First Survey 15 March Last Survey 3/6/1937

(Number of Visits 10.)

Tons Gross Net

Survey held at
g. Book.
on the

Newcastle on Tyne
"Lindenhall"

W. Hartlepool
ditto

By whom built
By whom made

Wm Gray & Co
Cent. Mar. Eng. Wks.

Yard No. 1076 When built 1937
Engine No. 1076 When made 1937

Newcastle on Tyne
OF EXH. TURBINE
Horse Power at Full Power

By whom made
Sven Hunter & Nigham Rickman

Boiler No. 1548. When made 1937
Port belonging to West Hartlepool.

Horse Power as per Rule

881

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

de for which Vessel is intended

Ocean going.

AM TURBINE ENGINES, &c.—Description of Engines

Recip Engine with 2nd Steam Turbine (Bauer-Wach System)
with Hydraulic Coupling D.R. Cleared to Sc. Shaft.

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

EXPANSION	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.
EXPANSION							64.	728.	1.			
"							79.	758.	1.			
"							94.	788.	1.			
"							109.	818.	1.			
"							126.	852.	1.			
"							144.	888.	1.			
"							160.	920.	1.			

ft Horse Power at EXH. TURBINE
or Shaft diameter at journals
Pitch Circle Diameter
1st pinion 162.9169 1st reduction wheel 1515.1269
2nd pinion 342.1254 main wheel 1998.4469

ance between centres of pinion and wheel faces and the centre of the adjacent bearings
1st pinion 265 1st reduction wheel 1560
2nd pinion 422.5 main wheel 525

Pinion Shafts, diameter at bearings
1st 230 250
main 500
Intermediate Shafts, diameter
as per rule 12.877
as fitted 15.5

Generator Shaft, diameter at bearings
1st 1445
Propelling Motor Shaft, diameter at bearings
main 1908
Thrust Shaft, diameter at collars
as per rule 13.115
as fitted 350 = 13.74

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

Is the after end of the liner made watertight in the
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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
No. of Blades
State whether Moveable
Total Developed Surface
square feet.

Can the H.P. or I.P. Turbine exhaust direct to the
No. and size
How driven
Lubricating Oil Pumps, including Spare Pump, No. and size
2-9" + 8" x 18" STROKE.

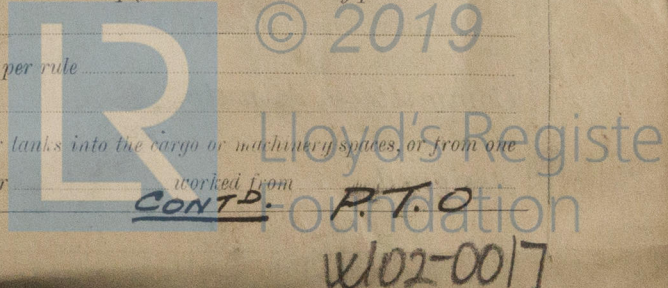
Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
In Pump Room
Independent Power Pump Direct Suctions to the Engine Room
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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
Are they fitted with Valves or Cocks
Are the Overboard Discharges above or below the deep water line

Are the Blow Off Cocks fitted with a spigot and brass covering plate
How are they protected
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
Is the Shaft Tunnel watertight
Is it fitted with a watertight door

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?
{ an Auxiliary }

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 ^{THRUST}Shafting 12/1/37. Main Boilers ✓ Auxiliary Boilers ✓ Donkey Boilers ✓
(If not state date of approval) ¹ & CONE COUPLING.

Superheaters ✓

General Pumping Arrangements ✓

Oil Fuel Burning Arrangements ✓

Has the spare gear required by the Rules been supplied

Yes viz.

SPARE GEAR.

1. Bearing of each size fitted.

1. Set of Thrust Pads for each Thrust Bearing.

1 Spring & 1 set of Washers for Emergency Governor.

State the principal additional spare gear supplied

FOR

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD

The foregoing is a correct description,

L. J. Stueben
MANAGERDates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel --- }
Total No. of visits

1937 Jan 15. Apr. 12. 27. 28. May 3. 11. 25. 28. 31. June 3.

10.

Dates of Examination of principal parts—Casing 27/4/37 Rotor 27/4/37 Blading 11/5/37 Gearing 28/5/37

Wheel shaft 28/5/37 Thrust shaft 28/5/37 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 ✓ EXHAUST TURBINE in Shop ✓
Engine tried under steam 28/5/37

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Rotor shaft, Material and tensile strength S.M. Steel, 39.9 tons/□ (Y.P. 23.7 tons/□) Identification Mark 12041 J.L.

1st Redn. Flexible Pinion Shaft, Material and tensile strength S.M. Steel 45.9 tons/□ (Y.P. 31.6 tons/□) Identification Mark 11982 J.L.

2nd Redn. Pinion shaft, Material and tensile strength S.M. Steel 45.1 tons/□ (Y.P. 34.7 tons/□) Identification Mark 12071 J.L.

Hydr. Coupling 1st Reduction Wheel Shaft, Material and tensile strength S.M. Steel 29.3 tons/□ Identification Mark 11847 J.L.

Wheel shaft, Material S.M. Steel Identification Mark 3439 F.S. Thrust shaft, Material S.M. Steel Identification Mark 635 L

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? No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) This Exhaust Steam Turbine with

its D/R Gear, have been constructed under special survey in accordance

with the Society's Rules and approved plan. The materials and workmanship

are good. The Turbine & D/R Gear are being sent to W. H. P. for inst.

Examined during installation and, upon completion, under working conditions

and found satisfactory.

The amount of Entry Fee ... £ ✓

Special during Construction in Shops. £ 9.16

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

4 JUN 1937

When received,

85-6-1937

A. Watt & J. Brooke Smith
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE 2 NOV 1937

See App. 96 17750



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Foundation