

# REPORT ON STEAM TURBINE MACHINERY

Sld. N° 31972

No. 94262  
-7 OCT 1936  
-5 DEC 1936

Date of writing Report

19

When handed in at Local Office

3-10-36 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle

Date, First Survey

8 May

Last Survey

1<sup>st</sup> Sep

1936

Reg. Book.

on the Steamer S/S. LLANASHE

(Number of Visits 9)

Tons } Gross 4836  
Net 2911

built at Sunderland

By whom built Bartram & Co. Ltd

Yard No. 273

When built 1936

engines made at Newcastle

By whom made White's Marine Lugs, G.

Engine No. 6. C.

When made 1936

Turbine made at Newcastle

By whom made R.W. Hawthorn Leslie & Co. Ltd

Turbine No. 9851

When made 1936

136. Shaft Horse Power at Full Power 675

Owners The Barry Shipping Co. Ltd

Port belonging to Cardiff

nom. Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which Vessel is intended

## E.M. TURBINE ENGINES, &c.—Description of Engines

4 Cyl. Comp. Recip. Engines with SR Bearing, combined with LP Turbine with DR Bearing, to Screw Shaft.

No. of Turbines

Ahead ONE } combined  
Astern ONE } casing

to ONE propelling shaft.

No. of primary pinions to each set of reduction gearing

Direct coupled to

Alternating Current Generator

phase

periods per second

rated

Kilowatts

Volts at

revolutions per minute

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

HEIGHT OF BLADES.

H.P. DIAMETER AT TIP.

NO. OF ROWS.

HEIGHT OF BLADES.

I.P. DIAMETER AT TIP.

NO. OF ROWS.

EXH. STEAM TURBINE.

HEIGHT OF BLADES.

DIAMETER AT TIP.

NO. OF ROWS.

ASTERN.

HEIGHT OF BLADES.

DIAMETER AT TIP.

NO. OF ROWS.

1st EXPANSION

2nd

3rd

4th

5th

6th

7th

8th

9th

10th

11th

12th

13th

14th

15th

16th

17th

18th

19th

20th

21st

22nd

23rd

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212nd

213rd

214th

215th

216th

217th

218th

219th

220th

221st

222nd

223rd



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 Shafting  
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes, viz.

State the principal additional spare gear supplied

2 main Bearing Bushes  
one Complete Carbon Ring for Clands  
one set Michell Thrust Pads  
one set Liners for forward side of Thrust Block  
2 springs for Carbon Rings  
one Relief Valve Spring.  
one Spring for Governor

2 Studs & nuts for Bearing Keeps; One Stud, one Bolt, & one fitted Bolt (each with nuts)  
for Cylinder Horizontal Joint.

The foregoing is a correct description,

R. & W. HAWTHORN, LESLIE & CO. LIMITED Manufacture

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

1936

May 8. 15. 19. 28. June 4. 30. July 24. 28. Sep. 1.

P. B. Johnson  
DIRECTOR  
1936

Dates of Examination of principal parts—Casings

4-6-36

Rotors

15/5/36

Blading

28/5/36

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 fired

✓

TURBINE

IN SHOP

Engines tried under steam 24/7/36

Main boiler safety valves adjusted

✓

Thickness of adjusting washers

✓

Rotor shaft, Material and tensile strength

S.M. Steel

56.5 + 56.2 Kg/mm<sup>2</sup> (say 35.7 tons/sq)

Identification Mark

LLOYDS 4512 G.A.

14-2-36

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.

✓

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 L. P. Exhaust Steam Turbine has been constructed under Special Survey in accordance with the Rules, and the materials and workmanship are good.

The Turbine was satisfactorily tested in the shop, then set up with the DR/SR Gearing, and afterwards dispatched to Sunderland to be installed with White's Reciprocating Engine in Bartram's Ship No 273.

The amount of Entry Fee ... £

...

Special ...

...

Donkey Boiler Fee ...

£

Travelling Expenses (if any) £

...

When applied for,

19

When received,

19

R. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 18 DEC 1936

Assigned

See minute on F.E. v/h



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