

RECEIVED

23 SEP 1949

IN D.O.

Report on Steam Turbine Machinery.

No. 118894

Received at London Office **LONDON**
Date of writing Report **19 Sept 1949** When handed in at Local Office **20 Sept 1949** Port of **LONDON**
Date, First Survey **13 Oct 1948** Last Survey **10-8-1949**
(Number of Visits **25**)
on the **TURBO-GENERATOR SETS FOR VESSEL No. 1414 S.S. Runic** Tons {Gross... Net...
Built at **BELFAST** By whom built **HARLAND & WOLFF LTD.** Yard No. **1414** When built...
Engines made at **RUGBY** By whom made **BRITISH THOMSON HOUSTON CO., LTD.** Engine No. **BR. R. 3048** When made **1949**
Boilers made at **RUGBY** By whom made **BRITISH THOMSON HOUSTON CO., LTD.** Boiler No. **BR. R. 3049** When made **1949**
Horse Power at Full Power **220** Owners **Messrs SHAW, SAVILL & ALBION CO., LTD.** Port belonging to...
Horse Power as per Rule... Is Refrigerating Machinery fitted for cargo purposes... Is Electric Light fitted **YES**
Made for which Vessel is intended...

STEAM TURBINE ENGINES, &c.—Description of Engines **TWO-5 STAGE IMPULSE TURBINES SINGLE REDUCTION GEARED TO 2-500 KW GENERATORS**
of Turbines **ONE PER SET** Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing **ONE**
Direct coupled to **Alternating Current Generator** Direct Current Generator rate **500** Kilowatts **220** Volts at **1000** 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.

	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	67" 1.19"	26.58"	2									
2nd	70"	26.60"	1									
3rd	1.06"	27.32"	1									
4th	2.22"	29.64"	1									
5th	4.20"	33.60"	1									
6th												
7th												
8th												
9th												
10th												
11th												
12th												
13th												
14th												
15th												
16th												
17th												
18th												
19th												
20th												
21st												
22nd												
23rd												
24th												
25th												

H.P. } 740 I.P. } 6000 L.P. } 1000
Revolutions per minute, at full power, of each Turbine Shaft
Pitch Circle Diameter { 1st pinion 4.9586" 1st reduction wheel
2nd pinion main wheel 25.568" 1st reduction wheel
main wheel 6.625" 1st reduction wheel
main wheel 4.5156" 1st
4.5156" 2nd
Generator Shaft, diameter at bearings 4.50"
Propelling Motor Shaft, diameter at bearings
Thrust Shaft, diameter at collars
Screw Shaft, diameter
Is the { tube } shaft fitted with a continuous liner {
{ screw }
Thickness between bushes as per rule... 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...
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 so, state type... Length of Bearing in Stern Bush next to and supporting propeller...
Pitch... No. of Bades... State whether Moveable... Total Developed Surface... square feet.
Are arrangements made so that steam can be led direct to the L.P. Turbine... 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...
Oil Cooler... Suctions, connected both to Main Bilge Pumps and Auxiliary
In Engine and Boiler Room... In Pump Room...
Water Circulating Pump Direct Bilge Suctions, No. and size... Independent Power Pump Direct Suctions to the Engine Room
No. and size... Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes...
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...
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...
Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times...
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
or from one compartment to another... Is the Shaft Tunnel watertight... Is it fitted with a watertight door... worked from...

003409-003446-0320

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.....

State the principal additional spare gear supplied.....

One set of turbine and gear bearings; One set of springs;
One set of gland packings and springs; Two sets of diaphragm packing springs;
One worm and wormwheel; One set of control valves; liners, spindles, nuts and seats;
One set of revolving parts of governor; 20% set of all nuts and bolts; One set of
oil guards; 25 condenser tubes and packings.

The foregoing is a correct description,

THE BRITISH THOMSON HOUSTON CO. LTD.

Dates
of Survey
while
building

During progress of
work in shops - - -
During erection on
board vessel - - -
Total No. of visits.....

1948: Oct 13 Nov 3 Dec 10
1949: Feb 16 25 Apr 22 May 4 13 15 20 25 27 June 1 10 15 22 30 July 1 6 8 13 21 Aug 4 10
25 (in shops)

Dates of Examination of principal parts—Casings.....

Port 20.5.49
S.D. 6.7.49

Port 3.6.49
S.D. 8.7.49

Port 18.5.49
S.D. 8.7.49

Port 3.6.49
S.D. 8.7.49

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.....

SIEMENS STEEL

40 TONS U.T.S.

Identification Mark.....

Port S.1404 F4950
S.D. S.1407 F4950

Flexible Pinion Shaft, Material and tensile strength.....

✓

Identification Mark.....

Pinion shaft, Material and tensile strength.....

SIEMENS STEEL

48 TONS U.T.S.

Identification Mark.....

Port S.1359 F4937
S.D. S.1360 F4938

1st Reduction Wheel Shaft, Material and tensile strength.....

Identification Mark.....

Wheel ^{SHROUD}.....

SIEMENS STEEL

Identification Mark.....

Port S.1494 F4941
S.D. S.1497 F4941
WNR.

shaft, Material.....

SIEMENS STEEL

Identification Mark.....

Port S.1524
S.D. S.1524

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.....

YES

If so, state name of vessel. CAMMELL LAIRD YARD NO. 1202.

General Remarks. (State quality of workmanship, opinions as to class, &c.).....

The Turbo Generating sets have been constructed under Special Survey in accordance with the requirements of the Rules and approved plans. The steel used in manufacture was made at an approved works, the workmanship is good and the sets have been tested in the shops under load and no load conditions with satisfactory results. The operation of the governors and trip gears have been tested and found in order. Subsequently the turbines and gearing were opened up, examined and all found satisfactory. The sets have been despatched to Belfast for fitting in the vessel.

This machinery is in my opinion eligible for inclusion in the LMC when satisfactorily installed in the vessel and tested under working conditions.

The amount of Entry Fee ... £

Special ... £ 49 : 4 : 0

When applied for.....

Donkey Boiler Fee ... £

Travelling Expenses (if any) £ 19 : 1 : 2

When received.....

When condition now complied with. A. H. ...

W. Robinson + W. Methuen.

Engine Surveyors to Lloyd's Register of Shipping.

Committee's Minute.....

FRI. 5 MAY 1950

Assigned.....

See F.E. Melby. rpt.



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