

Generating
Report on Steam Turbine Machinery.

Bl. 14714.
No. 117096

Received at London Office 8-MAR-1949
Date, First Survey 22.6.48 Last Survey 7.9.1948
Port of London
Survey held at Peterborough
On the Belfast
By whom built James Harland & Wolff
By whom made Thomas P. Broderick
Engine No. 97300
When made 1948
Boiler No. When made
Horse Power at Full Power 940 (each)
Horse Power as per Rule 156 (each)
Owners Royal Train Line
Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted
Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines. 1 + 7 Ratian stages

Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing
Direct Current Generator rated 700 Kilowatts. 225 Volts at 750 revolutions per minute;
Propelling Motors, Type ships auxiliaries
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	.78	21.78	1									
2nd	1.83	22.83	1									
3rd	.95	22.95	1									
4th	.95	22.95	1									
5th	1.07	23.07	1									
6th	1.64	23.64	1									
7th	2.51	25.01	1									
8th	3.11	26.11	1									
9th	3.9	26.9	1									
10th												
11th												
12th												

Manuf. 1st reduction wheel 750
H.P. 940
I.P. —
L.P. —
Revolutions per minute, at full power, of each Turbine Shaft
H.P. 6000
I.P. —
L.P. —
main shaft
Motor Shaft diameter at journals
H.P. 3 1/2"
I.P. —
L.P. —
Pitch Circle Diameter
1st pinion 5.79"
2nd pinion —
1st reduction wheel 46.201
main wheel —
Width of Face
1st reduction wheel 12"
main wheel —
1st pinion 9 3/8"
2nd pinion —
1st reduction wheel 10 3/4"
main wheel —
1st 5.570"
2nd —
Pinion Shafts, diameter at bearings
1st 4 1/4"
2nd 4 2 3/4"
diameter at bottom of pinion teeth
Generator Shaft, diameter at bearings 5"
Propelling Motor Shaft, diameter at bearings
Thrust Shaft, diameter at collars
as per rule 6"
as fitted —
Screw Shaft, diameter
as per rule —
as fitted —
Is the tube screw shaft fitted with a continuous liner
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
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
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
propeller, diameter Pitch No. of Bades State whether Moveable Total Developed Surface square feet
Can the H.P. or I.P. Turbines exhaust direct to the
Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine
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
Lubricating Oil Pumps, including Spare Pump, No. and size 1 bear. 1 Semi rotating
Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary
In Pump Room
Independent Power Pump Direct Suctions to the Engine Room
Main Water Circulating Pump Direct Bilge Suctions, No. and size
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
Are they fitted with Valves or Cocks
Are the Overboard Discharges above or below the deep water
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates
Are the Blow Off Cocks fitted with a spigot and brass
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel
How are they protected
What pipes pass through the bunkers
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
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

4A 117096

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?.....
{ an Auxiliary }
Is the donkey boiler intended to be used for domestic purposes only.....
Plans. Are approved plans forwarded herewith ~~in~~ Sketching 17.12.47. Main Boilers..... Auxiliary Boilers..... Donkey Boilers.....
(If not, state date of approval)..... Oil Fuel Burning Arrangements.....
Superheaters..... General Pumping Arrangements.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied.....

State the principal ~~main~~ spare gear supplied. 1. Set of turbine bearings 1 Set of thrust pads
20 of turbine blades 20 of bolts & nuts 1. Tube nest for oil cooler 1 Set of gear
box bearings 2% of condenser tubes & 6% of packing and ferrules
1 Extractor condenser rotor complete with bearings
1 Circulator rotor

For PETER BROTHERHOOD LTD.

S. J. Bellamy
DIRECTOR

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - - 1948: June 22, 29, July 13, Aug 20, 23, 31, Sept 7.
During erection on board vessel - - 7 In Shops
Total No. of visits.....

Dates of Examination of principal parts—Casings 29.6.48, 13.7.48 Rotors 13.7.48 Blading 13.7.48 Gearing 16.7.48
Wheel shaft 16.7.48 Condenser 22.6.48 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..... Identification Mark *BH 55512 7.4.48*
Rotor shaft, Material and tensile strength *Stainless Steel 56/58 Tons sq in* Identification Mark *BH 55513 7.4.48*

Flexible Pinion Shaft, Material and tensile strength..... Identification Mark *EB 8.946.15.8.48*
Pinion shaft, Material and tensile strength..... Identification Mark *EB 8.947.26.8.48*

1st Reduction Wheel Shaft, Material and tensile strength *Steel 31/34 Tons sq in* Identification Mark *EB 1024 24.9.47*
Wheel shaft, Material *Steel* Identification Mark *EB 1025 24.9.47*

Intermediate shafts, Material..... Identification Marks..... Tube shaft, Material..... Identification Marks.....
Screw shaft, Material..... Identification Marks..... Steam Pipes, Material..... Test pressure.....

Date of test *Set A. 13.9.48. Set B. 7.9.48.* 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.) *These two self contained turbo general sets have been built under Special Survey in accordance with the approved plans and the Requirements of the Rules. Steel forgings & castings used in their manufacture have been made at works approved by the Committee and under the supervision of their surveyors. Full power trials were held & subsequently both machines were opened out for inspection & all parts found to be in good order. The workmanship is good & the sets are in my opinion suitable for inclusion in the vessels L.M.C when satisfactorily installed. Subject to the emergency stop trip valve being fitted on Set B. (Belfast surveyors advised).*
Attaches to Lp 47822, 47848, 47850, 47897 etc.

The amount of Entry Fee ... £ : : When applied for.....
Special ... £ 62 : 12/8 19 SEP 1948
Donkey Boiler Fee ... £ : : When received.....
Travelling Expenses (if any) £ 7 : 6/6 : 19

A. C. Widdows

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute.....

Assigned *See F. E. Mchly. sph.*

FRI. 22 APR. 1948



© 2020

Lloyd's Register Foundation