

List of

W261-0085

REPORT ON STEAM TURBINE MACHINERY.

No. 97250
MAR -9 1939

pt. 4a.

Date of writing Report 19 When handed in at Local Office 7/31 1939 Port of Newcastle on Tyne
 No. in Survey held at Wallsend Date, First Survey 7 March Last Survey 4 March 1939
 Reg. Book. on the Steamer "SILVER LAUREL" (Number of Visits 149)
 Built at Sunderland By whom built J.L. Thompson & Sons. Ltd. Yard No. 588 When built 1939
 Engines made at Wallsend By whom made Wallsend Slipway & Eng. Co. Ltd. Engine No. 932 When made 1939
 Boilers made at Wallsend By whom made Wallsend Slipway & Eng. Co. Ltd. Boiler No. 932 When made 1939
 Shaft Horse Power at Full Power 4550 Owners Silver Line Limited Port belonging to London
 Nom. Horse Power as per Rule 877 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
 Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c. — Description of Engines Impulse - Reaction

No. of Turbines 3 Direct coupled to one propelling shafts. No. of primary pinions to each set of reduction gearing one (To H.P.)
 No. of Turbines 2 HP double reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing one (To H.P.)
 direct coupled to { Alternating Current Generator — phase — periods per second } rated — Kilowatts — Volts at — revolutions per minute;
 for supplying power for driving { Direct Current Generator }
 rated — Kilowatts — Volts at — revolutions per minute. Direct coupled, single or double reduction geared to — propelling shafts

TURBINE LADING.	H. P. Impulse			I. P. Reaction			L. P. Reaction			ASTERN. Impulse		
	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	17 3/32"	20 7/32"	1	1 1/2"	23"	11	2 7/8"	3-4 3/4"	3	(H.P. in L.P. casing)		
2ND	1 1/4"	20 1/16"	1	1 13/16"	23 5/8"	10	3 5/8"	3-6 1/4"	3	7/8"	3-6 23/32"	1
3RD	9/16"	18 3/8"	1	2 1/4"	24 1/2"	9	4 3/16"	3-7 3/8"	2	7/8"	3-7 3/32"	1
4TH	9/16"	18 5/32"	1	2 3/4"	25 1/2"	9	5"	3-9"	2	1 1/2"	3-7 13/16"	1
5TH	4/32"	18 7/8"	1	3 5/8"	27 1/4"	8	6"	3-11"	1			
6TH	5/8"	19 9/32"	1	4 7/16"	28 7/8"	7	6 1/2"	3-11 1/2"	1			
7TH	2 1/32"	19 4/16"	1				7 1/4"	4-1 1/2"	2	1 5/16"	4-5 1/2"	
8TH	2 3/32"	20 1/8"	1				8"	4-3"	3	2 3/8"	4-6 1/16"	
9TH	2 5/32"	20 9/16"	1							2 1/16"	4-6 3/8"	
0TH										3 5/8"	4-8"	
1TH												
2TH												

Shaft Horse Power at each turbine { H.P. 1510 ✓ I.P. 1520 ✓ L.P. 1520 ✓ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5000 ✓ I.P. 2200 ✓ L.P. 2200 ✓ }
 Rotor Shaft diameter at journals { H.P. 4" ✓ I.P. 6 1/2" ✓ L.P. 7 1/2" ✓ } Pitch Circle Diameter { H.P. pinion 6.6415" ✓ I.P. pinion 6.8558" ✓ }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { H.P. 14.9970" ✓ I.P. 136.9012" ✓ L.P. 13 1/2" ✓ }
 Flexible Pinion Shafts, diameter { 1st — 2nd — } Pinion Shafts, diameter at bearings { External 1st — 2nd — }
 Wheel Shafts, diameter at bearings { main 16" ✓ } diameter at wheel shroud, { main 137.2722" ✓ }
 Intermediate Shafts, diameter { as per rule — as fitted 4 3/8" ✓ } Thrust Shaft, diameter at collars { as per rule — as fitted 15 1/8" ✓ }
 Tube Shaft, diameter { as per rule — as fitted — } Screw Shaft, diameter { as per rule 7795 ✓ as fitted 16" ✓ }
 Bronze Liners, thickness in way of bushes { as per rule 7795 ✓ as fitted 13/16" ✓ } Thickness between bushes { as per rule 576 ✓ as fitted 1/16" ✓ }
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner in one length
 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 no
 Propeller, diameter 17'-0" Pitch 1 No. of Blades 4 State whether Moveable no Total Developed Surface 93 square feet.
 Condenser yes No. of Turbines fitted with astern wheels 2 Feed Pumps { No. and size 2-9x11x10" How driven Steam }
 Pumps connected to the Main Bilge Line { No. and size 2-9x11x10" How driven Steam }
 Ballast Pumps, No. and size 1-9x11x10" Lubricating Oil Pumps, including Spare Pump, No. and size 2-9x8x18"
 Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size: — In Engine and Boiler Room 2 P.T.S. For 1 P.T.S. aft 3"; 1 in afterdam 2" Thrust 2" In Pump Room —
 In Holds, &c. F. Peak 4" N°1-3" N°2-3 1/2" N°3-3" N°4-3" N°4 1/2" 3" N°5 1/2" Port & Starb. Aft well 3" Dry tank 3 Aft peak 4"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 13" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5"
 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 yes
 Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Both
 Are they fired sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line below
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 What pipes pass through the bunkers — How are they protected —
 What pipes pass through the deep tanks — Have they been tested as per rule —
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Tip Dry Room

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BOILERS, &c.—(Letter for record *2 W.T.B.*) Total Heating Surface of Boilers *6090 sq. ft.*
 Is Forced Draft fitted *yes* No. and Description of Boilers *Two Yarrow Type W.T.* Working Pressure *450 lbs*
 Is a Report on Main Boilers now forwarded? *Yes*
 Is *a Donkey* Boiler fitted? *Two Cochran Type* If so, is a report now forwarded? *Yes*
 Is the donkey boiler intended to be used for domestic purposes only *No*
 Plans. Are approved plans forwarded herewith for Shafting *yes* Main Boilers *yes* Auxiliary Boilers *yes* Donkey Boilers *yes*
 (If not state date of approval)
 Superheaters *yes* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*
 Has the spare gear required by the Rules been supplied *yes* **SPARE GEAR.**
 State the principal additional spare gear supplied *See attached list.*

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

J. W. Phetson.

DIRECTOR. Manufacturer.

The foregoing is a correct description,

1938
 Dates of Survey while building
 During progress of work in shops -- *Mar 7, 16, 23, 31, Apr 25, May 5, 10, 13, 16, 17, 18, 20, 26, 27, June 2, 7, 8, 17, 27, 29, July 6, 7, 13, 18, 20, 21, 22, 25, 26, 28, Aug 2, 3, 4, 5, 8, 10, 11, 15, 16, 17, 18, 23, 24, 26, Sep 5, 6, 7, 9, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, Oct 4, 6, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 25, 26, 27, 31, Nov 1, 2, 3, 4, 7, 8, 10, 11, 14, 15, 17, 18, 21, 22, 23, 24, 25, 28, 29, 30, Dec 1, 2, 5, 6, 7, 8, 12, 13, 14, 15, 16, 19, 20, 21, 22, 1939 Jan 5, 9, 10, 11, 13, 16, 17, 24, 25, 31, Feb 2, 3, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, Mar 1, 2, 4, 14, 19, 24, 29, Apr 4, 11, 18, 25, May 2, 9, 16, 23, 30, Jun 6, 13, 20, 27, Jul 4, 11, 18, 25, Aug 1, 8, 15, 22, 29, Sep 5, 12, 19, 26, Oct 3, 10, 17, 24, 31, Nov 7, 14, 21, 28, Dec 5, 12, 19, 26, 31*
 Total No. of visits *149*
 Dates of Examination of principal parts—Casings *L.P. 27-9-38, L.P. 17-10-38* Rotors *14-11-38* Blading *H.P. & L.P. 14-11-38, L.P. 19-10-38* Gearing *14-11-38*
 Wheel shaft *14-11-38* Thrust shaft *23-9-38* Intermediate shafts *6-23-9-38* Tube shaft *—* Screw shaft *23-9-38*
 Propeller *23-9-38* Stern tube *16-9-38* Engine and boiler seatings *9.1.39,* Engine holding down bolts *8.2.39.*
 Completion of fitting sea connections *8-12-38* Completion of pumping arrangements *2.3.39* Boilers fired *16.1.39.* Engines tried under steam *24.2.39*
 Main boiler safety valves adjusted *Saturated steam 455 lbs Superheat 40 lbs* Thickness of adjusting washers *Port 5/16" 3/8" 7/16" Starb 1/2" 3/4"*
 Rotor shaft, Material and tensile strength *Siemens Martin Steel H. 35.7 tons: L.P. 34.3 tons: L.P. 34.5 tons* Identification Mark *LLOYDS N° 932, 14-11-38*
 L.P. & L.P. Pinion Shafts Material and tensile strength *Nickel Steel I.P. 45.5 tons: L.P. 41.0 tons* Identification Mark *LLOYDS N° 932, 14-11-38*
 H.P. Pinion shaft, Material and tensile strength *Nickel Steel 46.5 tons* Identification Mark *LLOYDS N° 932, 14-11-38*
 H.P. 1st Reduction Wheel Shaft, Material and tensile strength *Siemens Martin Steel 31.3 tons* Identification Mark *LLOYDS N° 932, 14-11-38*
 Wheel shaft, Material *Steel* Identification Mark *LLOYDS N° 932, 30-11-38, J.E.S. Thrust shaft, Material Steel Identification Mark 23-9-38 J.E.S.*
 Intermediate shafts, Material *Steel* Identification Marks *6-23-9-38, J.E.S. Tube shaft, Material Steel Identification Marks —*
 Screw shaft, Material *Steel* Identification Marks *LLOYDS N° 932, 23-9-38, J.E.S. Steam Pipes, Material Steel Test pressure 1200 lbs*
 Date of test *10.11.24/39, 2.6.39, 13.14.15.16.20.21.22/39.* Is an installation fitted for burning oil fuel *Yes*
 Is the flash point of the oil to be used over 150°F. *Yes* Have the requirements of the Rules for the use of oil as fuel been complied with *yes.*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *yes* If so, have the requirements of the Rules been complied with *yes*
 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 machinery has been built under Special Survey and in accordance with the Rules and approved plans, the materials and workmanship are good, after erection in the works it was tried under steam and found satisfactory in all respects. The machinery has been fitted on board in accordance with the Requirements of the Rules & found satisfactory under full working conditions. The machinery is eligible in my opinion to have the Record + LMC 3.39. CL. Fitted for Oil Fuel 3.39 FP above 150°F.*

The amount of Entry Fee ... £ *6 : 0* :
 Special ... £ *118 : 17* :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *7 MAR 1939*
 When received, *15. 4 19 39*

R. C. Moffitt T. J. Selles.
 Engineer/Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned *+ Lmb. 3. 39*
Intt for oil fuel 3.39
FP above 150°F
2 W.T.B. - 450 lbs

