

Report on Steam Turbine Machinery.

No. 3194

pt. 4a.

Date of writing Report 26/7/1948 When handed in at Local Office 26/7/1948 Port of Barrow Received at London Office 29 JUL 1948
 No. in Survey held at Barrow NEWCASTLE-ON-TYNE Date, First Survey 14/6/1946 Last Survey 22/7/1948
 Reg. Book 95136 on the SHILLONG (Number of Visits 203) Tons {Gross 8933.68
 Supplement. NEWCASTLE Net 4816.33
 Built at Barrow By whom built Kickers. Gunpowder Ltd No. 104 When built 1948
 Engines made at Barrow By whom made do Engine No. 955 When made 1948
 Boilers made at Barrow By whom made do Boiler No. 955 When made 1948
 Shaft Horse Power at Full Power 13,000 Owners P. & O. Port belonging to LONDON
 Nom. Horse Power as per Rule 2880 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted —
 Trade for which Vessel is intended —

STEAM TURBINE ENGINES, &c.—Description of Engines IMPULSE-REACTION

No. of Turbines 3 Ahead 3 Direct coupled, 2 I.P. & L.P. single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing —
 Astern 2 H.P. double reduction geared }
 direct coupled to { Alternating Current Generator — phase — periods per second } rated — Kilowatts. — Volts at — revolutions per minute;
 Direct Current Generator }
 for 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 BLADING.	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	1 1/4"	19"	7	1 3/8"	38 1/4"	9	2 3/4"	53 1/2"	2			
2nd "	1 3/4"	19 1/2"	6	1 3/4"	39"	6	3 3/8"	54 3/8"	1	H.P. 1. 3 ROW WHEEL	48" M.D.	
3rd "	1 5/8"	19 7/8"	4	1 7/8"	39 1/4"	6	3 3/8"	55 1/4"	1	L.P. 1. 3 ROW WHEEL	56" M.D.	
4th "	2 3/16"	20 7/8"	4	2 1/4"	40"	5	4 1/16"	56 1/8"	1			
5th "				2 3/4"	41"	4	4 5/8"	57 1/4"	1			
6th "				3 3/8"	42 1/4"	4	5 3/16"	58 3/8"	1			
7th "							5 13/16"	59 5/8"	1			
8th "							6 7/16"	60 7/8"	1			
9th "							7 1/8"	62 1/4"	1			
10th "							8"	64"	1			
11th "							9 3/4"	64 1/2"	1			
12th "							10 1/8"	69 3/4"	1			
							12"	72"	1			

Shaft Horse Power at each turbine H.P. 4333 I.P. 4333 L.P. 4333 Revolutions per minute, at full power, of each Turbine Shaft H.P. 1898 I.P. 1898 L.P. 1898
 Rotor Shaft diameter at journals { H.P. 5" Pitch Circle Diameter { 1st pinion 11.355" 1st reduction wheel 23.995" Width of Face { 1st reduction wheel 20 1/2"
 { I.P. 7 1/2" { 2nd pinion 11.56" main wheel 169.39" { main wheel 4'-0"
 { L.P. 9" {
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 17 1/2" 1st reduction wheel 18 1/4"
 { 2nd pinion 19 1/8" main wheel 4'-2 1/4" main wheel 4'-2 1/4" F.O.S.D. 4'-0 3/4" AFT.
 Flexible Pinion Shafts, diameter { 1st — Pinion Shafts, diameter at bearings { External 1st { 5 1/2" 2nd { 8 1/2" diameter at bottom of pinion teeth { 1st 11.2091"
 { 2nd — { Internal 1st { 2" 2nd { 3" { 2nd 10.3678"
 Wheel Shafts, diameter at bearings { 1st 7'-2" diameter at wheel shroud, { 1st — Generator Shaft, diameter at bearings —
 { main 22" { main 13'-7 3/8" Propelling Motor Shaft, diameter at bearings —
 Intermediate Shafts, diameter as per rule appd. Thrust Shaft, diameter at collars as per rule appd.
 as fitted 19 1/4" as fitted 20 1/8"
 Tube Shaft, diameter as per rule — Screw Shaft, diameter as per rule appd. Is the { tube } shaft fitted with a continuous liner { yes
 as fitted — as fitted 2 1/2" { screw }
 Bronze Liners, thickness in way of bushes as per rule appd. thickness between bushes as per rule appd. Is the after end of the liner made watertight in the
 as fitted 3 1/32" as fitted 3/4" propeller boss — 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 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 — If so, state type — Length of Bearing in Stern Bush next to and supporting propeller 7'-2"
 Propeller, diameter 8'-6" Pitch 16'-3" No. of Bades 4 State whether Moveable not Total Developed Surface 160 square feet.
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine yes Can the H.P. or I.P. Turbines exhaust direct to the
 Condenser yes No. of Turbines fitted with astern wheels 2 Feed Pumps { No. and size —
 { How driven —
 Pumps connected to the Main Bilge Line { No. and size —
 { How driven —
 Ballast Pumps, No. and size — Lubricating Oil Pumps, including Spare Pump, No. and size —
 Are two independent means arranged for circulating water through the Oil Cooler — Suctions, connected both to Main Bilge Pumps and Auxiliary
 Bilge Pumps, No. and size:—In Engine and Boiler Room — In Pump Room —
 In Holds, &c. — 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 —
 Bilges, No. and size — 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 —
 Are all 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
 line — 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
 covering plate — 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 —
 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 — Is the Shaft Tunnel watertight — Is it fitted with a watertight door — worked from —



