

REPORT ON STEAM TURBINE MACHINERY.

No. 74651

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Date of writing Report 10 When handed in at Local Office 10 Port of Glasgow
 No. in Survey held at 23430 on the 55 Reg. Book. Date, First Survey 2-12-48. Last Survey 19-9-1949
 23430 on the 55 RHINELAND (Number of Visits)
 Built at Kiel By whom built Howaldtswerke n/g Yard No. Tons } Gross 1223.4
 Engines made at Bremen By whom made Deutsche Schiff- u- Maell. Engine No. 2099 Net 532.2
 Boilers made at Kiel By whom made Howaldtswerke A/g Boiler No. AT357 When built 1938
 Shaft Horse Power at Full Power 360 Owners - Burnie Line Ltd Port belonging to Lill When made 1938
 Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes
 Trade for which Vessel is intended International

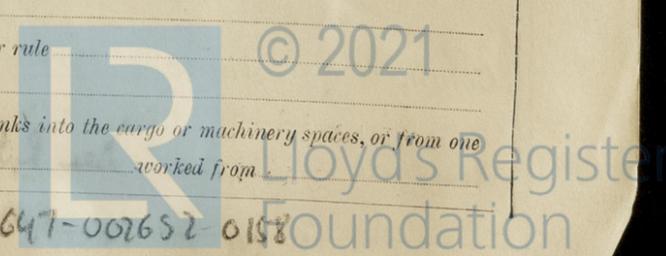
STEAM TURBINE ENGINES, &c.—Description of Engines compound & LP Turbine with DR gearing & hydraulic coupling

No. of Turbines Ahead 1 Direct coupled, single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 1
 Astern - double reduction geared }
 direct coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;
 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												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. - I.P. - L.P. - } Revolutions per minute, at full power, of each Turbine Shaft { H.P. - I.P. - L.P. 5000. } 1st reduction wheel - main shaft -
 Rotor Shaft diameter at journals { H.P. - I.P. - L.P. 99.9 in. } Pitch Circle Diameter { 1st pinion - 2nd pinion - } 1st reduction wheel - main wheel - Width of Face { 1st reduction wheel 110 in. - main wheel 390 in. - }
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 338 x 115 in. - 2nd pinion 305 x 315 in. - } 1st reduction wheel 233 x 253 in. - main wheel 352 x 352 in. -
 Flexible Pinion Shafts, diameter { 1st - 2nd - } Pinion Shafts, diameter at bearings External Internal { 1st 100 in. - 2nd 200 in. - } diameter at bottom of pinion teeth { 1st - 2nd - }
 Wheel Shafts, diameter at bearings { 1st 180 x 200 in. - main 310 in. - } diameter at wheel shroud, { 1st - main - } Generator Shaft, diameter at bearings - Propelling Motor Shaft, diameter at bearings -
 Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted Tube Shaft, diameter as per rule as fitted
 Screw Shaft, diameter as per rule as fitted Is the { tube screw } shaft fitted with a continuous liner { } Bronze Liners, thickness in way of bushes as per rule as fitted
 Thickness between bushes as per rule as fitted 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 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 Length of Bearing in Stern Bush next to and supporting propeller
 Propeller, diameter Pitch No. of Blades State whether Movable Total Developed Surface square feet.
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the Condenser
 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 }
 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 to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room
 Holds, &c.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight fall 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 stowhold 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
 That pipes pass through the bunkers How are they protected
 That 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

Refer A. See



007647-002652-0158

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 }

Plans. Are approved plans forwarded herewith for Shafting _____ Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
 (If not state date of approval)

Superheaters _____ General Pumping Arrangements _____ Oil Fuel Burning Arrangements _____

Spare Gear. State the articles supplied:— _____

The foregoing is a correct description, _____

Manufacturer _____

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

Dates of Examination of principal parts—Casings _____ Rotors _____ Blading _____ Gearing _____

Wheel shaft _____ Thrust shaft _____ Intermediate shafts _____ Tube shaft _____ Screw shaft _____

Propeller _____ Stern tube _____ Engine and boiler seatings _____ Engine holding down bolts _____

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 _____ Identification Mark _____

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 _____

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. This machinery, built under G.L. survey has now been examined throughout, tried under working conditions and found satisfactory and is eligible to be classed with a record M.B.S. 9-49 and notation T.S. cc.

Handwritten note: A 10/28 202

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	19
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	19

Signature: J.R. Dale
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW - 9 NOV 1949*

Assigned *See Rpt. 9.*



Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)