

# REPORT ON STEAM TURBINE MACHINERY. No. 2661

Received at London Office JUL 1 1937

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Writing Report 30.6.1937 When handed in at Local Office 30.6.1937 Port of **Barron**  
Survey held at **Barron** Date, First Survey **26.11.37** Last Survey **27.6.1937**  
On the **Replac Quaring for Imbe AWATEA** (Number of Visits **13**)  
made at **Barron** By whom built **Vickers Armstrong & Co** Yard No. **707** When built **1926**  
made at **- do -** By whom made **- do -** Engine No. **707** When made **- do -**  
made at **- do -** By whom made **- do -** Boiler No. **707** When made **- do -**  
orse Power at Full Power **22500** Owners **Union SS Co of New Zealand Ltd** Port belonging to **Wellington**  
orse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
of which Vessel is intended

## TURBINE ENGINES, &c.—Description of Engines

Ahead Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing.  
Astern double reduction geared }  
led to Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;  
Direct Current Generator }  
ing power for driving Propelling Motors, Type  
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

Turbine	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.
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orse Power at each turbine { H.P. I.P. L.P.  
shaft diameter at journals { H.P. I.P. L.P.  
Pitch Circle Diameter 1st pinion 8.569 1st reduction wheel  
2nd pinion 11.947 main wheel 162.18  
1st pinion 13 1/4 (16) + 16 1st reduction wheel  
2nd pinion 13 1/2 (16) + 16 main wheel 40 1/8  
1st pinion 7 1/2 (8) + 16 diameter at bottom of pinion teeth 1st 8.423  
2nd 11.85  
Pinion Shafts, diameter at bearings External 4P 7 1/2 (8) LP 8 1/2 (10)  
Internal 1P 2 1/4 1st 3  
Shafts, diameter at bearings 1st 19 1/2 diameter at wheel shroud, 1st 2 1/2 - 2 1/2  
main 19 1/2  
Generator Shaft, diameter at bearings  
Propelling Motor Shaft, diameter at bearings  
Thrust Shaft, diameter at collars  
Screw Shaft, diameter  
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  
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
or 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  
ers 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  
If so, state type Length of Bearing in Stern Bush next to and supporting propeller  
r, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.  
Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or L.P. Turbine exhaust direct to the  
No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven  
connected to the Main Bilge Line No. and size How driven  
Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size  
dependent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
No. and size:—In Engine and Boiler Room In Pump Room  
Ac.

ater 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  
fitted 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  
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  
pass through the bunkers How are they protected  
pass through the deep tanks Have they been tested as per rule  
pes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
ngement 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  
ut to another. Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from



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 for Shafting Main Boilers Auxiliary Boilers Donkey Boilers  
(If not state date of approval)

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

The foregoing is a correct description,

For Vickers, Armstrongs Ltd  
H. Mitchell Manuf

Dates of Survey while building { During progress of work in shops - - 26.11.36 to 29.6.37  
During erection on board vessel - - -  
Total No. of visits 13.

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 fitting sea connections Completion of pumping arrangements Boilers fired 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 Nickel Steel 40 tons Identification Mark Just marks  
1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material Ingal Steel Identification Mark Just marks + JM Thrust shaft, Material Identification Mark  
2 Intermediate shafts, Material do. Identification Marks No 665 JM 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 If so, state name of vessel

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

This vessel's gearing has been constructed under Special Survey & in accordance with the approved plans. The materials & workmanship are sound & good. The gear has been shipped to Sydney for installation in S/S ATARIDA.

The amount of Entry Fee ... £ : : When applied for,  
Special ... £ 10-10-0 19  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 26.9 1937

Committee's Minute

Assigned

FRI 17 SEP 1937

LR-FAF-TB14-287

Engineer Surveyor to Lloyd's Register of Shipping.