

Report on Steam Turbine Machinery.

No. 1232

Received at London Office
 Date of writing Report 19... When handed in at Local Office 23 FEB 1953 Port of Kobe
 No. in Survey held at Aioi Japan Date, First Survey 13 - 2 - 52 Last Survey 24 - 10 - 19 52
 Reg. Book (Number of Visits 66)
 on the Steel, Single Screw S.S. "KIRISHIMA-MARU" Tons (Gross 11,979.61 (Net 8,726.64)
 Built at Aioi Japan By whom built Harima Shipbuilding & Engineering Co., Ltd. Yard No. 476 When built Oct. 1952
 Engines made at Tokyo Japan By whom made Ishikawajima Heavy Industries Co., Ltd. Engine No. IT 2185 When made Aug. 1952
 Boilers made at Aioi Japan By whom made Harima Shipbuilding & Engineering Co., Ltd. Boiler No. B750, 751 When made Aug. 1952
 Shaft Horse Power at Full Power 8000 S.H.P. Owners TERUKUNI KAIUN K.K. Port belonging to Tokyo
 om. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended Ocean going

STEAM TURBINE ENGINES, &c.—Description of Engines

No. of Turbines Ahead... Direct coupled, single reduction geared } to... propelling shafts. No. of primary pinions to each set of reduction gearing...
 Astern... double reduction geared }
 Direct coupled to { Alternating Current Generator... phase... periods per second } rated... Kilowatts... Volts at... revolutions per minute;
 r 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	H. P.	I. P.	L. P.	ASTERN.
LADING.				
No. of rows				
No. of stages				
No. of rows in each stage				

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. 1st reduction wheel main shaft

Pinion Shaft diameter at journals H.P. I.P. L.P. Pitch Circle Diameter 1st pinion 1st reduction wheel 2nd pinion main wheel Width of Face 1st reduction wheel main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel 2nd pinion main wheel

Pinion Shafts, diameter at bearings External Internal 1st 2nd diameter at bottom of pinion teeth 1st 2nd

Wheel Shafts, diameter at bearings 1st diameter at wheel shroud, 1st Generator Shaft, diameter at bearings, main Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule 16.4204" as fitted 16.7717" ✓ Thrust Shaft, diameter at collars as per rule as fitted

Shaft, diameter as per rule 17.9925" as fitted 18.5040" ✓ Is the tube screw shaft fitted with a continuous liner Yes

Linze Liners, thickness in way of bushes as per rule 0.8513" as fitted 0.9447" Thickness between bushes as per rule 0.6385" as fitted 0.7087" Is the after end of the liner made watertight in the

propeller boss. Yes 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

ft. None If so, state type Length of Bearing in Stern Bush next to and supporting propeller 94.4883" ✓

propeller, diameter 5750 mm Pitch 4137.5 mm No. of Blades 4 State whether Moveable Moveable Total Developed Surface 117.2 square feet.

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

denser. Yes No. of Turbines fitted with astern wheels 2 Feed Pumps No. and size 2 x 45M3/H x 300M 2 x 20 M3/H x 300M

How driven steam (turbine) Steam (Weirs)

aps connected to the Main Bilge Line (No. and size 1x200M3/Hx30M 1x100M3/Hx60M 1x90M3/Hx140M 2-15M3/Hx35 1x15M3/Hx50M

(Bilge-Ballast P.) (Bilge-Fire P.) (Butterworth P.) (Bilge-Sanitary P.) (Sanitary P.)

How driven Motor Worthington Motor Main eng. shaft Motor

ast Pumps, No. and size 1 x 200M3/H x 30M Lubricating Oil Pumps, including Spare Pump, No. and size 2 x 135M3/H x 35M

two independent means arranged for circulating water through the Oil Cooler. Yes Suctions, connected both to Main Bilge Pumps and Auxiliary

e Pumps, No. and size:—In Engine and Boiler Room. Shaft tunnel 1 x 3" Aft (P.S.) 2 x 4" For (P.S.) 2 x 3" For (C.) 1 x 2" In Pump Room. Main 2 x 4" (P.S.) 1 x 2" (Center)

olds, &c. Rope Store (For) 1 x 50" Chain locker 1 x 50" Cargo hold (P.S.) 2 x 70" Off (F.B.T-189) 1 x 100" Cuff (F.B.T-61) 1 x 100" Rope Store (Aft P.S.) 2 x 50" 1 x 50"

n Water Circulating Pump Direct Bilge Suctions, No. and size 1 x 450p Independent Power Pump Direct Suctions to the Engine Room

es, No. and size 1x4" (A.P.) 1x6" (A.S.) Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. Yes

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

all Sea Connections fitted direct on the skin of the ship. Yes Are they fitted with Valves or Cocks. Yes

Are they fixed 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

Both 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

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. NONE Is it fitted with a watertight door. NONE worked from.

ILERS, &c.—(Letter for record) Total Heating Surface of Boilers 561.724M2 x 3

Forced Draft fitted Yes No. and Description of Boilers 3.A type Harima 3 drum Working Pressure 22 Kg/cm2

Water Tube Boiler

a Report on Main Boilers now forwarded? Yes

009570-009579-0142

Is { a Donkey Boiler fitted? NONE 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 6-10-52 Main Boilers 4-9-52 Auxiliary Boilers - Donkey Boilers -
(If not, state date of approval)

Superheaters 4-9-52 General Pumping Arrangements 8-10-52 Oil Fuel Burning Arrangements 8-10-52

Geared turbines situated aft. Have torsional vibration characteristics of system been approved yes Date of approval 26-9-52

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

1 set of Bearing bushes for each reduction gear & each rotor.

2 spare propeller blades

The foregoing is a correct description.

THE HARIMA SHIPBUILDING AND
ENGINEERING COMPANY, LTD.

M. Yoshinawa

Manufacturer

Dates of Survey while building	During progress of work in shops - -	1952, Feb. 13, March 4, 10, 18, April 1, 4, 5, 7, 9, 18, 21, 23 May 6, 8, 16, 17, 20, 22, 24, 27, 29
	During erection on board vessel - - -	June 5, 7, 10, 14, 18, 20, 23, 25, 27, 30 July 2, 4, 7, 11, 16, 18, 25, 28 Aug. 1, 6, 8, 9, 11, 13, 14, 18, 22
	Total No. of visits	66

Dates of Examination of principal parts—Casings Rotors Blading Gearing

Wheel shaft Thrust shaft Intermediate shafts 13-8-52 Tube shaft Screw shaft 24-5-52

Propeller 6-8-52 Stern tube 9-4-52 Engine and boiler seatings 8-9-52 Engine holding down bolts 15-9-52

Completion of fitting sea connections 20-8-52 Completion of pumping arrangements 18-10-52 Boilers fixed 25-8-52 Engines tried under steam 18.21-1

Main boiler safety valves adjusted 7-10-52 Thickness of adjusting washers Drum (L) 48(R) 44 No. 1 Sup. 44 No. 2 S-50 No. 3 S-47

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

; Chemical analysis

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material Identification Mark No. 1 No. 2 Thrust shaft, Material Identification Mark

Intermediate shafts, Material O.H. Steel Identification Marks K-F 1056 K-F 1142 Tube shaft, Material Identification Marks

Screw shaft, Material .H. Steel Identification Marks K-F 1085 Steam Pipes, Material Seamless O.H. steel Test pressure 44 Kg/cm²

Date of test 1952, Sept. 1, 13, 19, 22, 30

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 - 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 Yes If so, state name of vessel S.S. "TERUKUNI - MARU"

General Remarks. (State quality of workmanship, opinions as to class, &c.) The Machinery has now been satisfactory installed on board and tested under full power.

In our opinions the machinery of this vessel is worthy of a record of + LMC 10, 52 BS 10, 52 W.P. 22 kg/cm² and TS (CL) 10, 52. Subject to the reduction gears of the main turbines being specially examined at the end of six months time (i.e. end of March, 1953)

The amount of Entry Fee ...	£ 300.000	When applied for.
Special ...	£ :	23. FEB. 1953
Donkey Boiler Fee ...	£ :	When received.
Travelling Expenses (if any) £ :	:	19

Committee's Minute FRI. 19 JUN 1953

Assigned + LMC 10, 52 Subject

MITTED FOR OIL FUEL 10, 52 FLASH POINT ABOVE 150°F. FD CL 3 WTB 313/6 Spl.



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