

Report on Steam Turbine Machinery. No. 3253

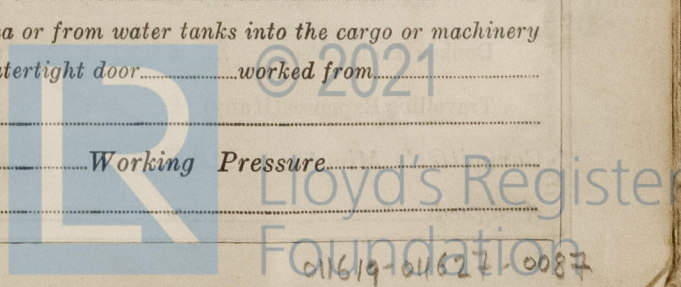
1. Date of writing Report 19. When handed in at Local Office DEC 29 1955 Port of Kobe, Japan Date, First Survey 22-3-1955 Last Survey 27th-Oct., 1955. (Number of Visits 38) Tons (Gross) Net Oct., 1955. On the S.S. "JINGU MARU" Harima Shipbuilding & Eng., Ltd. Yard No. 1282 When built Oct., 1955. Engines made at Kobe, Japan By whom made Kobe Shipyard & Eng., Wks. Engine No. 1283 When made Aug., 1955. Boilers made at Aioi, Japan By whom made Mitsubishi Heavy Ind., Reorganized Ltd. Boiler No. B780, 781 When made Shaft Horse Power at Full Power 600 x 2 Owners Daikyo Sekiyu K.K. Port belonging to Yokkaichi Nom. Horse Power as per Rule 120 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes Trade for which Vessel is intended Ocean going (Carrying petroleum in bulk)

TEAM TURBINE ENGINES, &c.—Description of Engines All Impulse, Single Reduction gear turbine each generator No. of Turbines Ahead 2 sets Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing 1 Direct coupled to Alternating Current Generator 3 phase 60 periods per second rated 500 K.V.A. 450 Volts at 1200 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.

H.P.		I.P.		L.P.		ASTERN.	
Curtis 1 row							
Rateau 4 rows							
No. of rows							
No. of stages							
No. of rows in each stage							

Shaft Horse Power at each turbine 600 Revolutions per minute, at full power, of each Turbine Shaft 7548 Reduction wheel 1200 pinion 7548 Rotor Shaft diameter at journals 60mm Pitch Circle Diameter 1st pinion 142.55mm reduction wheel 896.65mm Width of Face 200mm 2nd pinion main wheel 200mm Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 210 2nd pinion 200 Reduction wheel 200mm pinion 200mm Flexible Pinion Shafts, diameter 1st Pinion Shafts, diameter at bearings External 70mm 2nd diameter at bottom of pinion teeth 132.93mm Internal 60mm Generator Shaft, diameter at bearings 110mm Wheel Shafts, diameter at bearings 1st 100mm diameter at wheel shroud, 830mm 2nd 110mm Propelling Motor Shaft, diameter at bearings Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as fitted Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted Is the tube screw shaft fitted with a continuous liner Bronze Liners, thickness in way of bushes as per rule Thickness between bushes 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller Propeller, diameter Pitch No. of Blades State whether Moveable 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. Turbines 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 both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room In Pump Room In Holds, &c. Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 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 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.

OILERS, &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  
Geared turbines situated aft. Have torsional vibration characteristics of system been approved Date of approval

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

- 1 - complete sets of turbine and reduction gear bearings.
- 1 - set of thrust pads.
- 1 - set of Oil strainer.
- 1 - Spiral gears for speed governor.
- 1 - set of gland packings.
- 1 - Complete steam Strainers.
- 1 - set of springs of each size.
- 1 - set of gear wheel & bearings for Lub.oil pump.
- 1 - set of coupling bolts & nuts.
- 1/8 of total No. of Bolts & nuts the flange of turbine & gear ca
- 64 - tubes for Oil Cooler.
- 10 - Tubes for Condenser.
- 66 - sets of packing for condense tube.

Kobe Shipyard & Engine Works, Mitsubishi Heavy-Industries, Reorganized, Limited  
The foregoing is a correct description.

H. Oshima, Director & General Manager

Director, Vice-Manager of Aioi Works

Manufactur

Dates of Survey while building During progress of work in shops - - 1955: March-22, April-5, 11, 13, 14, 19, 23, May-4, 11, 12, 14, 18, 21 June-4, 16, 23, 29  
During erection on board vessel - - 1955: July-2, 6, 8, 13, 20, 22, 23, 25, 27, 29, Aug.-2, 20, 29, 30, 31  
Total No. of visits 38

Dates of Examination of principal parts - Casings 20-7-1955 27-7-1955 Rotors 29-7-1955 2-8-1955 Blading 29-7-1955 2-8-1955 Gearing 23-7-1955 27-7-1955  
Wheel shaft 27-7-1955 Thrust shaft - Intermediate shafts - Tube shaft - Screw shaft - 2-8-1955

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

Completion of fitting sea connections - 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 Special Steel 89.3kg/cm2 90.3 85.5kg/cm2 86.8 Identification Mark (F1686A (F1686B) (KOB No. FS-F961 (SM 29-7-55 LR

Flexible Pinion Shaft, Material and tensile strength - Identification Mark (HR11FB (HR10FB (MKF910-10 (MKF910-8 (SM 25-7-55 LR

Pinion shaft, Material and tensile strength Ni Steel 70.8kg/cm2 (72.3 kg/cm2) Identification Mark (MKF910-10 (MKF910-8 (SM 25-7-55 LR

; Chemical analysis C 0.36%, Si. 0.28%, Mn. 0.63%, P.O.014%, S0.013%, Ni 2.94%

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment 14-4-55

1st Reduction Wheel Shaft, Material and tensile strength Steel Forging 59.5kg/cm2 (59.5) Identification Mark (HR8F (MKF910-7 (MKF910-8 (SM 23-7-55 LR

Wheel shaft, Material Steel Forging Identification Mark (HR1F (HR9F (MKF910-1 (MKF910-8 (SM 23-7-55 LR

Intermediate shafts, Material Identification Marks Thrust shaft, Material Identification Marks

Screw shaft, Material Identification Marks Tube shaft, Material Identification Marks

Date of test Steam Pipes, Material Test pressure

Is the flash point of the oil to be used over 150°F Is an installation fitted for burning oil fuel

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Have the requirements of the Rules for the use of oil as fuel been complied with

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with If so, have the requirements of the Rules been complied with

Is this machinery a duplicate of a previous case Yes If so, state name of vessel Daikyo Maru (Harima Hull No. 4

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

These turbines have been constructed under the Supervision of the Society's Surveyors in

accordance with the Rules, Approved Plans, and the Secretary's letters.

The Materials were found sound and free from defects and the workmanship is good.

The turbines were examined under steam in full working condition during shop and comprehensive sea trial and found satisfactory.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 72,000 When applied for DEC. 29, 1955  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When received

Committee's Minute FRIDAY 13 APR 1956

Assigned Sec. Rpt. 44 a

Engineer Surveyor to Lloyd's Register of Shipping.



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