

Report on Steam Turbine Machinery.

/GENERATOR

16 NOV 1953

No. 1643

Rpt. 4a.

Date of writing Report 19 When handed in at Local Office 19 Port of KOB E
No. in Survey held at KOB E Date, First Survey 24-7-52 Last Survey 10-8-1953.
Reg. Book "MEITAI MARU" (Number of Visits 40)
on the Tons (Gross 12982.28 (Net 9558.53)
Built at Kobe, Japan By whom built Kawasaki Dockyard Co., Ltd. Yard No. 923 When built 8,53
Engines made at Kobe By whom made Mitsubishi Heavy Ind., Engine No. 1153 When made 1953 4mo.
Boilers made at KOB E By whom made Reorganized Ltd. Boiler No. 2165 When made 8,53
Shaft Horse Power at Full Power 530 HP x 2 Owners Meiji Kaiun K.K. Port belonging to Kobe
Nom. Horse Power as per Rule 1.06 x 2 Is Refrigerating Machinery fitted for cargo purposes None Is Electric Light fitted YES
Trade for which Vessel is intended OCEAN GOING (CARRYING PETROLEUM IN BULK)

STEAM TURBINE ENGINES, &c.—Description of Engines All Impulse Single Reduction geared Turbines
No. of Turbines 2 sets single reduction geared to propelling shafts No. of primary pinions to each set of reduction gearing 1
direct coupled to Alternating Current Generator phase periods per second rated 350 Kilowatts 230 Volts at 1200 revolutions per minute;
for supplying power for driving Propelling Motors Auxiliary Machineries and lighting.
rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	H. P. Curtis 1 row Rateau 4 rows	I. P.	L. P.	ASTERN.
Impulse Blading	No. of rows			
Reaction Blading	No. of stages			
	No. of rows in each stage			

Shaft Horse Power at each turbine 530 Revolutions per minute, at full power, of each Turbine Shaft 7548
Rotor Shaft diameter at journals 60mm Pitch Circle Diameter 896.65mm Pinion shaft 142.55mm
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 200mm
Pinion Shafts, diameter at bearings 70.0mm diameter at bottom of pinion teeth 132.93mm
Wheel Shafts, diameter at bearings 110mm diameter at wheel shroud, 830mm Propelling Motor Shaft, diameter at bearings 130mm & 150mm
Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule
Tube Shaft, diameter as per rule Screw Shaft, diameter as per rule Is the tube screw shaft fitted with a continuous liner
Bronze Liners, thickness in way of bushes as per rule Thickness between bushes as per rule 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. 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
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

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 8-12-52 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 Steam strainer

2 - Complete set of turbine and reduction gear bearings.

1 - Set of thrust pad.

1 - Set of oil strainer.

1 - Spiral gear for speed governor.

1 - Spiral gear for tachometer.

2 - Sets of gland packing.

2 - Set of spring of each size.

1 - Set of gear wheel and bearing for lubricating oil pump.

1/2- Set of coupling bolts and nuts.

1/20 - of total No. of bolts and nuts for the flange of turbine and gear case.

1/40 - Tube of oil cooler.

1/30 - Tube of condenser.

1/30 - Set of packing for condenser tube.

The foregoing is a correct description.

S. Murakami
Director & General Manager

Manufacturer.

Dates of Survey while building During progress of work in shops - 1952. July 24, Aug. 2, 21 Sept., 11, 13, 18, 27, 30 Oct., 9, 11, 25 Nov. 11, 18, 25 Dec., 17, 18, 19, 22, 26 1953 Jan. 6, 17, 19, 22, 30 Feb. 10, 19, 26 March 10, 14, 17, 24, 26 April 14, 15, 16
During erection on board vessel - 1953. JUNE 4, JULY 10, 15, 30, AUG. 10
Total No. of visits. 40

Dates of Examination of principal parts—Casings 25-10-52 Rotors 19-12-52 17-1-53 (Rim) 10-3-53
18-11-52 22-12-52 Blading 17-1-53 25-11-52
Wheel shaft 18-11-52 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 fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers

Rotor shaft, Material and tensile strength Special Steel 157.5 T/in² 157.3 T/in² Identification Mark LR No. KWF1722 LR No. G5390 1721

Flexible Pinion Shaft, Material and tensile strength Identification Mark LR No. MKF497-5 LR No. N1

Pinion shaft, Material and tensile strength Special Steel 47.3 T/in² 50.1 T/in² Identification Mark LR No. MKF497-4 LR No. MKF497-5 LR No. N1

; Chemical analysis 0.33% 0.35% 0.50% 0.016% 0.007% 3.45%

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 Forging steel 35.4 T/in² 35.5 T/in² Identification Mark LR No. MKF497-2 LR No. MKF497-4 LR No. MKF497-5 LR No. MKF497-6 LR No. MKF497-7 LR No. MKF497-8 LR No. MKF497-9 LR No. MKF497-10 LR No. MKF497-11 LR No. MKF497-12 LR No. MKF497-13 LR No. MKF497-14 LR No. MKF497-15 LR No. MKF497-16 LR No. MKF497-17 LR No. MKF497-18 LR No. MKF497-19 LR No. MKF497-20 LR No. MKF497-21 LR No. MKF497-22 LR No. MKF497-23 LR No. MKF497-24 LR No. MKF497-25 LR No. MKF497-26 LR No. MKF497-27 LR No. MKF497-28 LR No. MKF497-29 LR No. MKF497-30 LR No. MKF497-31 LR No. MKF497-32 LR No. MKF497-33 LR No. MKF497-34 LR No. MKF497-35 LR No. MKF497-36 LR No. MKF497-37 LR No. MKF497-38 LR No. MKF497-39 LR No. MKF497-40 LR No. MKF497-41 LR No. MKF497-42 LR No. MKF497-43 LR No. MKF497-44 LR No. MKF497-45 LR No. MKF497-46 LR No. MKF497-47 LR No. MKF497-48 LR No. MKF497-49 LR No. MKF497-50 LR No. MKF497-51 LR No. MKF497-52 LR No. MKF497-53 LR No. MKF497-54 LR No. MKF497-55 LR No. MKF497-56 LR No. MKF497-57 LR No. MKF497-58 LR No. MKF497-59 LR No. MKF497-60 LR No. MKF497-61 LR No. MKF497-62 LR No. MKF497-63 LR No. MKF497-64 LR No. MKF497-65 LR No. MKF497-66 LR No. MKF497-67 LR No. MKF497-68 LR No. MKF497-69 LR No. MKF497-70 LR No. MKF497-71 LR No. MKF497-72 LR No. MKF497-73 LR No. MKF497-74 LR No. MKF497-75 LR No. MKF497-76 LR No. MKF497-77 LR No. MKF497-78 LR No. MKF497-79 LR No. MKF497-80 LR No. MKF497-81 LR No. MKF497-82 LR No. MKF497-83 LR No. MKF497-84 LR No. MKF497-85 LR No. MKF497-86 LR No. MKF497-87 LR No. MKF497-88 LR No. MKF497-89 LR No. MKF497-90 LR No. MKF497-91 LR No. MKF497-92 LR No. MKF497-93 LR No. MKF497-94 LR No. MKF497-95 LR No. MKF497-96 LR No. MKF497-97 LR No. MKF497-98 LR No. MKF497-99 LR No. MKF497-100

Wheel shaft Material Forging Steel Identification Mark GY3F 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.

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.) These turbines have been constructed under the supervision of the Society's Surveyors in accordance with the Rules, Approved Plans, and the Society'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 with satisfactory results.

The machinery has now been satisfactory installed on board and tested under full power.

The amount of Entry Fee ... £ 72.000 : When applied for.
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : 19

The Committee's Minute

Assigned

FRIDAY - 4 DEC 1953

See minute on

hull fe. rbl.

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation