

Report on Steam Turbine Machinery.

No. 2786 A

4a.

Received at London Office

16 JAN 1959

of writing Report 7th JAN. 1959
in Survey held at YOKOHAMA
g. Book

When handed in at Local Office

19

Port of YOKOHAMA

Date, First Survey October 7th 1957 Last Survey 23rd OCTOBER 1958
(Number of Visits 56)

on the Single
Twin
Triple
Quadruple

Screw Vessel S.S. "ALTHEA"

Tons { Gross 24,257
Net 15,244

uilt at YOKOHAMA

By whom built MITSUBISHI NIPPON HEAVY IND. LTD

Yard No. 823

When built 10-1958

ines made at KOBE

By whom made MITSUBISHI HEAVY IND. REORGANIZED LTD

Engine No. 153

When made 5-1958

ilers made at YOKOHAMA

By whom made MITSUBISHI NIPPON HEAVY IND. LTD

Boiler No. 4239+40

When made 9-1958

ft Horse Power { Maximum 17,000
Service 15,500

Owners YEGA STEAM SHIP CO.

Port belonging to MONROVIA

as per Rule 3,400

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES

ide for which Vessel is intended OCEAN GOING

AM TURBINE ENGINES, &c.—Description of Engines MITSUBISHI WESTINGHOUSE MARINE STEAM TURBINE.

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

TURBINE LOADING.	H. P.	I. P.	L. P.	ASTERN.
No. of rows.....				
No. of stages.....				
No. of rows in each stage.....				

ft Horse Power at each turbine { H.P.....
I.P..... Revolutions per minute, at full power, of each Turbine Shaft { I.P.....
L.P..... L.P..... 1st reduction wheel.....
main shaft.....

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

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

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

heel Shafts, diameter at bearings { 1st..... diameter at wheel shroud, { 1st..... Generator Shaft, diameter at bearings.....
main..... main..... Propelling Motor Shaft, diameter at bearings.....

ermediate Shafts, diameter { as per rule..... 526 mm.....
as fitted..... 535 mm..... Thrust Shaft, diameter at collars { as per rule..... 578.7 mm.....
as fitted..... 590 mm.....

be Shaft, diameter { as per rule.....
as fitted..... Screw Shaft, diameter { as per rule..... 599.59 mm.....
as fitted..... 618 mm..... Is the { tube } shaft fitted with a continuous liner { YES
screw }

onze Liners, thickness in way of bushes { as per rule..... 26 mm..... Thickness between bushes { as per rule..... 19.56 mm.....
as fitted..... 28.5 mm..... as fitted..... 23.5 mm..... Is the after end of the liner made watertight in the

opeller 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..... If so, state type..... Length of Bearing in Stern Bush next to and supporting propeller 2600 mm.
opeller, diameter 6800 mm Pitch 4860 mm No. of Blades 5 State whether Moveable No Total Developed Surface 209.47 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 L.P. Turbines exhaust direct to the

ndenser. YES No. of Turbines fitted with astern wheels 1 Feed Pumps { No. and size 3 - 85 m³/hr
How driven Steam turbine
1 - 130 m³/hr x 25 m, 1 - 30 m³/hr x 25 m.
mps connected to the Main Bilge Line { No. and size 1 - 100/160 m³/hr x 70/25 m,
How driven ELECTRIC MOTOR
1 - 100/160 m³/hr x 70/25 m, 1 - 130 m³/hr x 25 m

llast Pumps, No. and size 1 - 130 m³/hr x 25 m Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 130 m³/hr x 35 m.
e two independent means arranged for circulating water through the Oil Cooler YES Branch Bilge Suctions, No. and size:—In Engine
FWD 1 at 2" + 2 at 2" for eff.
l Boiler Rooms 1 at 5", 2 at 4", 2 at 3", 2 at 2" (4 at 2" for COFFERDAMS) In Pump Room MAIN 1 at 4" + 2 at 3"

Holds, &c.....
ain Water Circulating Pump Direct Bilge Suctions, No. and size 1 at 20" Direct Bilge Suctions to the Engine and/or Boiler Room
lges, No. and size 1 at 5" 1 at 6" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.....

re 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
241 Are all Sea Connections fitted direct on the skin of the ship YES Are they fitted with Valves or Cocks BOTH
875 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
815 ne. BELOW 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
823 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.....
re all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times YES
PR. 123 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
2,3,4,5,6 spaces, or from one compartment to another YES Is the Shaft Tunnel watertight..... Is it fitted with a watertight door..... worked from.....

ILERS, &c.—Total Heating Surface of Boilers 24,100 ft²
Forced Draught fitted YES No. and Description of Boilers 2 YOKOHAMA C.E. TYPE 2 DRUM V.L.T. Working Pressure 700 lb/sq. in.
a Report on Main Boilers now forwarded? YES

011544-011554-0242

Is ☒ a Donkey ☐ an Auxiliary Boiler fitted? No If so, is a report now forwarded? -

Is the donkey boiler intended to be used for domestic purposes only? -

Plans. Are approved plans forwarded herewith for Shafting 4-8-57 Main Boilers 11-5-56 Auxiliary Boilers - Donkey Boilers -
(If not, state date of approval)

Superheaters 25-4-56 General Pumping Arrangements 1-5-58 Oil Fuel Burning Arrangements 28-11-57

Geared turbines situated aft. Have torsional vibration characteristics of system been approved YES Date of approval 4-1-58
3/10/57 398.0

SPARE GEAR.

Has the spare gear required by the Rules been supplied? YES

State the principal additional spare gear supplied.

The foregoing is a correct description.

M. Isogai
YOKOHAMA SHIPYARD & ENGINE WORKS, Manufacturer

Dates of Survey while building
During progress of work in shops - 1957 Oct-7, Dec-4, 1958. MAR-10, 12, 13, APR-7, 11, 14, 19, 26, 30. MAY-2, 12, 15, 20, 21, 22, 26, 27, 28, 29, 30, JUN-8, 9, 11, 12, 16, 18, 24, AUG-8, 12, 14, 15, 19, 25, SEP-1
During erection on board vessel - 1958 JUNE-9, 10, 14, JULY-16, 19, AUG-4, 7, 16, 18, 19, SEPT-8, 10, 12, 18, OCT-18, 21, 23
Total No. of visits. 56

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

Wheel shaft. Thrust shaft. Intermediate shafts 25-12-57 Tube shaft. Screw shaft 23-1-58

Propeller 25-3-58 Stern tube 6-6-58 Engine and boiler seatings 16-7-58+23-6-58 Engine holding down bolts 19-8-58

Completion of fitting sea connections. 9-6-58 Completion of pumping arrangements 12-9-58 Boilers fixed 18-8-58 Engines tried under steam 18-10-58

Main boiler safety valves adjusted 9-9-58 Thickness of adjusting washers PORT:- FWD 26mm. AFT 26mm. SPT 32mm
STBD:- FWD 27mm. AFT 28mm. SPT 34mm

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. YKA-N.Y.11888 Thrust shaft, Material. Identification Mark.

Intermediate shafts, Material. QH STEEL Identification Marks. YKA-N.Y.11889 Tube shaft, Material. Identification Marks.

Screw shaft, Material. QH STEEL Identification Marks. KOB-N.KT-F.1112 Steam Pipes, Material. C.Mo. STEEL FOR SUPERHEATED LINES Test pressures 91*98kg/cm²

Date of test. 22nd MAY to 1st SEPTEMBER, 1958 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

Full description of Fire Extinguishing Apparatus fitted in machinery spaces. 2-15lb CO₂, 2 SAND BOXES, 2 HYDRANTS & HOSES

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. No If so, state name of vessel. -

General Remarks. (State quality of workmanship, opinions as to class, &c.) The Machinery has been satisfactorily installed in the vessel in accordance with the Society's Rules, approved plans and Secretary's Letters, examined under full working conditions and found satisfactory.

No great hammer or rough running was noted during sea trials.

It is submitted that the machinery of this vessel is eligible to be classed with this Society with the notations of +LMC 10.58 and TS(CL) 10.58.

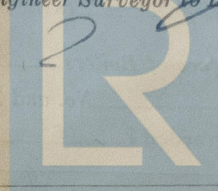
INSTALLATION
The amount of Entry Fee ... ¥386,000.- When applied for. JAN 10 1959
Special ... £ : : When received.
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 15,000.-

FRIDAY 27 FEB 1959

(The Committee's Minute)

Assigned

H. Armstrong
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
Foundation