

Report on Steam Turbine Machinery. No.

160 KW GENERATOR

Received at London Office

4 MAR 1953

4a. Date of writing Report 6th Oct 1952 When handed in at Local Office 19 Port of Yokohama
 Date, First Survey 13th March 52 Last Survey 22nd Aug 1952
 (Number of Visits 2/)
 on the S.S. "KIRISHIMA MARU"
 Tons: Gross 11158 Net 11158
 By whom built Ishikawajima Heavy Industries Co., Ltd. Yard No. 476 When built 1952
 By whom made Ishikawajima Heavy Industries Co., Ltd. Engine No. JA 1159 When made 52. 7 mo
 By whom made Ishikawajima Heavy Industries Co., Ltd. Boiler No. JA 1159 When made 52. 7 mo
 Shaft Horse Power at Full Power 220 SHP Owners Terukuni Kaisha K.K. Port belonging to
 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines Impulse Type 5 stages
 of Turbine Direct coupled, single reduction geared to 160 KW propelling shafts. No. of primary pinions to each set of reduction gearing 1
 Direct coupled to Alternating Current Generator. phase periods per second rated Kilowatts Volts at revolutions per minute;
 supplying power for driving Propelling Motors, Type
 Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LADING.	H. P.	I. P.	L. P.	ASTERN.
No. of rows <u>5 stages 6 rows</u>				
No. of stages <u></u>				
No. of rows in each stage <u></u>				

Shaft Horse Power at each turbine H.P. 220 SHP Revolutions per minute, at full power, of each Turbine Shaft H.P. 9.978 1st reduction wheel
I.P. main shaft 15.50
L.P.

Motor Shaft diameter at journals H.P. 70 mm Pitch Circle Diameter 1st pinion 99.32 1st reduction wheel 660.68 Width of Face 1st reduction wheel 100
I.P. main wheel
L.P.

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 105 1st reduction wheel 120
2nd pinion main wheel

Pinion Shafts, diameter at bearings 1st 60 2nd diameter at bottom of pinion teeth 1st 92.04
2nd

Wheel Shafts, diameter at bearings 1st 100 diameter at wheel shroud 1st 666.64 Generator Shaft, diameter at bearings
main Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule
as fitted as fitted

Tube Shaft, diameter as per rule Screw Shaft, diameter as per rule Is the tube shaft fitted with a continuous liner
as fitted as fitted screw

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
as fitted as fitted as fitted

Propeller boss 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
aft 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
 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
 Lubricating Oil Pumps, including Spare Pump, No. and size

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

Holds, &c. Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
ges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

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
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

ering plate What pipes pass through the bunkers How are they protected
at pipes pass through the deep tanks Have they been tested as per rule

all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times
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
ces, 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
 Forced Draft fitted No. and Description of Boilers Working Pressure

Report on Main Boilers now forwarded?

009570 - 009579 - 0145

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.

The foregoing is a correct description.

J. Morimoto

Manufact

Dates of Survey while building
During progress of work in shops - 1952 :- 13.16.25-March 26.29-April 2.9.13.16.23-May 10.13.20.22.24 June 1.4.11.29 July
During erection on board vessel - 1.22 Aug.
Total No. of visits 4-7-52 24-6-52 1-8-52 22-8-52

Dates of Examination of principal parts—Casings 29-7-52 Rotors 1-7-52 Blading 1-8-52 Gearing 22-2-52
Wheel shaft 10-6-52 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 Hi Cr. Mo. Ste L 54.5 T 53.7 R 54.4 Identification Mark NO. Y2636.B
Flexible Pinion Shaft, Material and tensile strength Identification Mark IA 1158
Pinion shaft, Material and tensile strength IA 1158 48.3 IA 1159 52.1 Identification Mark NO. Y2637E
; Chemical analysis C 0.31 Si 0.33 Mn 0.53 P 0.025 S 0.019 Ni 1.54 Cr 0.71 Mo

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 Forged Steel IA 1158 35.8 IA 1159 35.8 Identification Mark NO. Y3744.B
Wheel shaft, Material Identification Mark 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 no 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 approved plans and the Rules, the workmanship and materials have been found satisfactory. The turbines were examined during and after shop trials and found in good order. It is submitted that the engine is eligible for classification with this Society with the notation of +LTC when satisfactory installed on the vessel.

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

Committee's Minute. FRI. 19 JUN 1953
Assigned See F.E. mch. rpt.

Engineer Surveyor to Lloyd's Register of Shipping.



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