

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23. FEB. 1953

Received at London Office

Date of writing Report 19... When handed in at Local Office 19... Port of Kobe

No. in Survey held at Aioi, Japan Date, First Survey 27-8-52 Last Survey 24-10-1952

Reg. Book. (No. of Visits 13)

on the Steel, Single Screw S.S. "KIRISHIMA-MARU" Tons { Gross 11,979.41
Net 8,726.64

Built at Aioi, Japan By whom built Harima Shipbuilding & Engineering Co., Ltd. Yard No. 476 When built Oct. 1952

Owners TERUKUNI KAIUN K.K. Port belonging to Tokyo

Installation fitted by Harima Shipbuilding & Engineering Co., Ltd. When fitted Oct. 1952

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. NONE Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Two-wire Insul-Voltage of Lighting 110 V
Heating 220V Power 220V D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted with a trip switch Yes Generators, are they compound wound Yes, and level compounded under working conditions Yes, if not compound wound state distance between generators - and from switchboard - Are the generators arranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole Negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators starboard side in Engine room.

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil Yes Switchboards, where are main switchboards placed Fore center, switchboard platform in engine room

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil Yes, what insulation is used for the panels Ph, Resin Bonded Board, if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear for each generator and arrangement of equaliser switches For 160 KW Main Generator;

3-pole (center pole for equalizer) circuit breaker with overload and reverse-ct. trips.

For 40 KW Generator; 174A 2-pole circuit breaker with overload trips.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit

current rating of outgoing circuits; 200A over; 2 pole circuits breaker with overload trips

" " ; 200A & under; Fuse on each pole & 2 pole linked switch

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 120-0-1200A x 2
500A x 1
300A x 3
100A x 1

ammeters 300vx4 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection. Yes Earth Testing, state means provided Earth - indicating lamps

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes

make of fuses Fuji Elec. Mfg. Co. Ltd. are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 50% over, and at what current do the reversed current protective devices operate 15 %

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type -

state maximum fall of pressure between bus bars and any point under maximum load 10.6 V, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage Yes, are any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes or of the "HR" type - State how the cables are supported or protected

In machinery space; Cable protect by strong sheet-iron plating

Gang way ; Steel plating

On deck ; Galvanized steel pipe

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes (Provision use)

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule..... **Yes** Emergency Supply, state position

Navigation Lamps, are they separately wired..... **Yes** controlled by separate double pole switches and fuses..... **Yes** Are the switches and fuses in a position accessible only to the officers on watch..... **Yes** is an automatic indicator fitted..... **Yes** Is an alternative supply provided..... **Yes** are they adequately ventilated..... **Yes** are they constructed and fitted as per Rule..... **Yes** Except for wireless equipment

Secondary Batteries, are they constructed and fitted as per Rule..... **Yes** state battery capacity in ampere hours..... 24V - 174 AH ; 2sets

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof..... **Yes** Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present..... **Yes** if so, how are they protected..... flame proof type lamp

Searchlight Lamps, No. of....., whether fixed or portable....., are they of the carbon arc or of the filament type..... Are all fittings suitably ventilated..... **Yes** and where are the controlling switches fitted..... on the Bridge

Heating and Cooking, is the general construction as per Rule..... **Yes** are the frames effectually earthed..... **Yes** are heaters in the accommodation of the convection type..... **Yes** Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil..... **Yes** Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment..... **Yes** Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing..... **Yes** Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule..... **Yes** Control Gear and Resistances, are they constructed and fitted as per Rule..... **Yes** Lightning Conductors, where required are they fitted as per Rule..... **Yes** Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with..... **Yes** are all fuses of an Approved Cartridge Type..... **Yes** make of fuse..... Fuji Elec. Mfg. Co. Ltd. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships..... **Yes** Are the cables lead covered as per Rule..... **Yes** E.S.D., if fitted state maker..... Nihon Denki K. K. location of transmitter..... ENGINE ROOM and receiver..... ENGINE ROOM

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations..... **Yes** Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory..... **Yes**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				TYPE.	PRIME MOVER.
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.		
MAIN Gen	2	Shibaura Eng. Works	160	230	696	1500	Turbo-eng.	Ishikawajima Hvy. Ind.
Port Service	1	"	40	"	174	600	Diesel-eng.	Osaka Matsudoki Co.
EMERGENCY ROTARY TRANSFORMER (Motor-Gen.)	2	"	30	115/220	260/185	1800	Enclosed D.P.	Shibaura
	2	"	2KVA	115/220	174/11.5	"	"	"

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	160	2	0.4 IN	696	896	131	V.C.	Lead Sheathed & Armored
" " EQUALISER		1	"			32.8	"	"
Aux. Diesel Generator (Port Service)	40	1	0.15	174	238	99	"	"
EMERGENCY GENERATOR	48HP	1	0.15	185	238	99	"	"
ROTARY TRANSFORMER: MOTOR		1	0.25	260	331	65.6	"	"
" GENERATOR	30KW	1						

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.	No.	Volts.	Ampères.	Revs. per Min.	TYPE.	PRIME MOVER.
No. 4-2 Section box (Boil power)	2	0.15	407.3	476	164	V.C.
No. 5-3 " " (Condensate P.)	1	0.06	120	130	39.4	"
No. 5-6 " " (Freon Freezer)	1	0.15	191.7	238	32.8	"
5-7 " " (Evaporator P.)	1	0.01	18	22	164	V.R.
7-1 " " (Eng. S.S. power)	1	0.06	87	130	78	V.C.
7-2 " " (Eng. P.S. power)	1	0.1	64.5	85	105	V.R.
7-3 " " (Eng. V.F.)	1	0.06	90	130	525	V.C.
7-4 " Board (Midship power)	1	0.1	70.75	85	622	V.R.
7-5 " " (Aft. power)	1	"	47.8	85	131	"
7-7 " Box (Communication)	1	"	59	"	32.8	"
7-9 " " (Ref. Mach.)	1	"	51.8	"	355	"
7-10 " " (Work shop power)	1	0.06	21.3	60	78	"
220V Shore connect box	1	0.25	300	331	164	V.C.
110V " "	1	0.15	200	238	"	"

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Wireless telegraph	1	0.1	60	85	720	V.R.	Lead. S & A.
No. 10-1 Navigation Instrument	1	0.03	1.82	38	720	V.R.	"
10-2 Midship Ltg.	1	0.2	88	133	625	"	"
10-3 Aft. Cabin Ltg.	1	0.06	128.1	130	131	V.C.	"
10-5 Eng. Rm. Ltg.	1	"	93.8	130	26.3	"	"
10-6 Cargo Light	1	"	83	"	131	"	"
10-7 Cabin Fan	1	0.03	21.3	38	"	V.R.	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Condensate pump Motor	2	15	1	0.06	60	60	395	V.R.	"
Lub. Oil Pump "	2	35	1	0.1	140	185	131	V.C.	"
Fuel Oil " "	2	5	1	0.03	21.5	38	66	V.R.	"
F.O. Transf. pump "	1	10	1	0.06	42	60	98	"	"
Bilge Ballast " "	1	40	1	0.15	155	238	205	V.C.	"
Fire & Bilge " "	1	"	1	"	"	"	158	"	"
Drain Pump "	1	1	1	0.007	4.5	17	13	V.R.	"
Sanitary pump "	1	10	1	0.04	40	46	66	"	"
Fresh water pump "	1	5	1	0.03	20.6	38	53	"	"
Boiler Fan "	3	30	1	0.1	118	185	184	V.C.	"
Eng. boil. Rm. V.F. motor	3	7.5	1	0.03	30	38	328	V.R.	"
Oil purifier "	1	2	1	0.007	9	17	118	"	"
Evaporator Pump "	2	2	1	"	9	"	46	"	"
Air Compressor "	1	5	1	0.03	20.6	38	53	"	"
Gen. C. W. Pump "	1	1.5	1	0.007	7.1	17	39.5	"	"
Univ. lathe "	1	5	1	0.03	21	38	26	"	"
Turn. Gear "	1	7	1	"	29.1	"	118	"	"
Steering Gear "	2	20	1	0.1	80	85	428	"	"
Ref. Mach. compressor "	2	5	1	0.03	21	38	26	"	"
" C.W. Pump "	1	1.5	1	0.007	7	17	328	"	"
Fleoon Freezer "	1	20	1	0.1	78.5	85	32.8	"	"
Chilled W.W. P. "	1	4	1	0.0145	17	27	"	"	"
Cool. W. P. "	1	4	1	"	"	"	263	"	"
Fleoon Freezer "	1	12	1	0.1	48	85	32.8	"	"
Chilled W. P. "	1	3	1	0.007	13	17	"	"	"
Cool. W. P. P. "	1	3	1	0.0145	"	27	985	"	"
Bdg. F. W. P. "	1	1.5	1	0.007	7.1	17	66	"	"
Accom. Vent. Fan. "	2	3	1	"	13	"	131	"	"
" " " "	4	2	1	"	8.9	"	144	"	"
Galley V. F. "	1	1	1	"	4.7	"	210	"	"
Hot Air drier "	1	$\frac{1}{5}$ HP + 2 KW	1	"	10.3	"	66	"	"
Mincer for Tofu "	1	$\frac{1}{2}$	1	0.003	2.8	7	53	"	"
Refrigerator "	3	$\frac{1}{4}$	1	"	1.25	"	79	"	"
Boil. tube cleaner	1	2	1	0.03	18	38	210	"	"

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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

M. Yoshinaka
THE HARIMA SHIPBUILDING AND
ENGINEERING COMPANY, LTD.

Electrical Contractors.

Date.....

COMPASSES.

Have the compasses been adjusted under working conditions..... Yes

M. Yoshinaka
THE HARIMA SHIPBUILDING AND
ENGINEERING COMPANY, LTD.

Builder's Signature.

Date.....

Have the foregoing descriptions and schedules been verified and found correct..... Yes

Is this installation a duplicate of a previous case..... Yes If so, state name of vessel S. S. "TERUKUNI - MARU"

Plans. Are approved plans forwarded herewith..... No If not, state date of approval 23 Sep., 1952

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith..... Yes

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

*The Electrical Installation of this vessel has been constructed under
Special Survey in accordance with the Rules, Approved Plans and
Secretary's Letters*

*The Materials and workmanship were found sound and good.
The Generators and Motors etc. have been examined under full
load working condition to Rules' requirements and found satisfactory.*

Total Capacity of Generators..... 360 Kilowatts.

The amount of Fee ... £7192.000.

When applied for,

23 FEB. 1953

When received,

19

Travelling Expenses (if any) £

Committee's Minute..... FRI. 19 JUN 1953

Assigned

See F.E. mch. rpt.

S. B. Johnson & E. E. Zebinski
Surveyor to Lloyd's Register of Shipping.



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Lloyd's Register
Foundation