

Rpt. 13.

No. 799

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 1 Mach 19 52 When handed in at Local Office _____ 19 _____ Port of Kobe

No. in Survey held at Aioi, Japan. Date, First Survey 1-10-51 Last Survey 13-2 19 52
Reg. Book. (No. of Visits 9)

on the M/V "TAIEI-MARU" Tons { Gross 11867.82
Net 8891.61
Built at Aioi, Japan By whom built The Harima Shipbuilding & Engineering Co., Ltd. Yard No. 467 When built Feb. 1952.

Owners KYOEI TANKER K.K. Port belonging to Kobe

Installation fitted by The Harima Shipbuilding & Engineering Co., Ltd., When fitted Feb. 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. No. Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Two-wire insulated Voltage of Lighting 110

Heating 220 Power 220 D. C. or A. C., Lighting DC Power DC 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 ---- 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 pole. 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 Portside and starboard side of fore engine floor, 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 on fore center of engine floor

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 240 KW main generators; 3-pole (Center pole; equalizer) circuit-breaker with over-load trip and reverse current trip, and for 40 KW aux. generators; 2-pole circuit breaker with over load trip.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Capacity of out going circuits; 200 Amp and over; 2-pole circuit breaker with over load trip. Capacity of out going circuits; below 200 Amp; 2-pole linked switch and fuse on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes. Instruments on main switchboard 11 ammeters 7 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 lamp on each pole

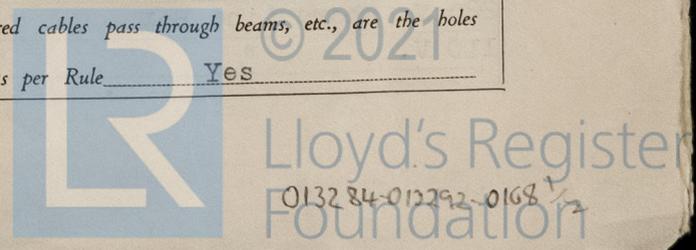
Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes, make of fuses Fuji Elec. Mfg. Co., Ltd. (Japan), are all fuses labelled Yes. If circuit breakers are provided for the generators, at what overload do they operate 50%, and at what current do the reversed current protective devices operate 156 A

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 70 volt, 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 spaces; cables are supported by flat steel-bar gang way; cables are supported by steel plate protector on deck and under machines or floor plate; cables are protected by 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



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**.

Secondary Batteries, are they constructed and fitted as per Rule **Yes**, are they adequately ventilated **Yes**. state battery capacity in ampere hours **24V - 120 A.H. - 2 sets (except for wireless telegraph)**

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 **of flame proof type**

and where are the controlling switches fitted **on bridge deck**. Are all fittings suitably ventilated **Yes**

Searchlight Lamps, No. of **6**, whether fixed or portable **fixed**, are they of the carbon arc or of the filament type **filament type**

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, and 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. (Japan)**. 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 **Kelvin Hughes** location of transmitter **Pump room** and receiver **Pump 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.	Ampere.	Revs. per Min.		
MAIN DIESEL GNE	2	TOKYO SHIBAURA ELECTRIC CO.LTD.	240	DC 230V	1043	500	Diesel eng.	HARIMA SHIPBUILDING & ENGINEERING CO.LTD
AUX. DIESEL GNE	1	NISHISHIBA DENKI K.K.	40	"	174	600	"	DAIHATSU KOGYO K.K
" RECIPRO "	1	"	"	"	"	"	Recipro eng.	ISHII KOSAKUSHO
EMERGENCY ROTARY TRANSFORMER	2	TOKYO SHIBAURA ELECTRIC CO.LTD.	38.5/30	220/115	175/260	1800	DC. Motor	TOKYO SHIBAURA ELECTRIC CO.LTD

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	240	4	0.3	1043	1488	130	V.C.	Leaded & armoured
" " EQUALISER		2	"		744	"	"	"
Aux. diesel generator	40	1	0.15	174	238	130	V.C.	"
Aux. reciproc generator	40	1	"	"	"	"	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	38.5		0.15	175	238	130	V.C.	"
" " GENERATOR	30		0.25	260	331	140	"	"

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

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
No.4-4 (Eng.Rm.Vent Fan) Section Box	1	0.06	90	130	100	VC	Leaded & armoured
No.4-5 (Boiler Fan & F.O.P.) " "	1	"	104	"	250	"	"
No.4-6 (Purifier) Section Box	1	0.1	127.8	185	130	"	"
No.4-7 (F.O.T.P. & F.O. Service P.)"	1	0.15	184	238	115	"	"
No.5-4 (Lathe Welder, Crane) " "	1	0.06	88	130	230	"	"
No.5-5 (F.W.P. & Sanitary P.) " "	1	"	59	"	296	"	"
No.5-6 (Ref. Machine) " "	1	"	46.6	60	430	Rubber	"
No.6-5 (Nautical Instrument)Section Bd.	1	"	36.9	"	760	"	"
No.6-6 (Aft. Power) Section Bd.	1	"	43.1	"	130	"	"
No.6-7 (Midship Power) Section Bd.	1	0.04	22.2	46	660	"	"
220 V. Shore Line Box	1	0.25	300	331	230	V.C.	"
110 V. " "	1	0.15	200	238	"	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet)	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
Navigation Light Fuse Board	1	0.007	1.82	17	825	Rubber	Leaded & armoured
No.10-2 Section Board (Mid ship Light)	1	0.15		110	660	"	"
No.10-3 " " (Aft Light)	1	0.06		130	130	V.C.	"
No.10-4 " " (Eng. Boiler Rm. L.)	1	0.1		185	40	"	"
No.10-5 " " (Cargo Light)	1	0.06		130	130	"	"
No.10-6 " " (Cabin Fan)	1	0.0225		33	130	Rubber	"
No.10-7 " " (Log.& Test Panel)	1	"	24	33	66	"	"
Battery Charging	1	0.06	20	60	825	"	"
Wireless Telegraph	1	0.15	51	110	825	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Steering Gear	2	20	1	0.06	83	130	478	V.C.	Leaded & armoured
Cooling Water Pump	3	60	1	0.2	235	286	280	"	"
Lub. Oil Pump	2	110	1	0.4	405	448	300	"	"
Air Compressor	2	100	1	"	370	"	180	"	"
Eng. Rm. Vent Fan	3	7.5	1	0.0225	30	33	260	Rubber	"
Boiler Fan	1	20	1	0.06	82	130	80	V.C.	"
Fuel Oil Pump	1	5	1	0.0225	22	33	165	Rubber	"
Lub. Oil Transfer Pump	1	2	1	0.0045	8.8	11	130	"	"
H.O. Purifier	2	6	1	0.0225	25	33	33	"	"
L.O. P.O. Purifier & F.O. Clarif.	3	5.5	1	"	23	"	66	"	"
F.O. Transfer Pump	2	15	1	0.06	60	60	"	"	"
F.O. Service Pump	2	5	1	0.0225	22	33	165	"	"
G.S. Pump	1	25	1	0.06	100	130	"	V.C.	"
Eng. Turning	1	15	1	0.06	61	83	230	Rubber	"
Lathe	1	5	1	0.0225	21	33	33	"	"
Elec. Welder	1	8	1	0.04	31	46	80	"	"
Crane	1 set	8.5	1	"	36	46	200	"	"
Fresh W.P. & Sanitary P.	2	7	1	0.0225	29.5	33	40	"	"
Ref. Mach. Compressor	2	5	1	"	21	"	16	"	"
" Cool. W.P.	1	1	1	0.0045	4.6	11	400	"	"
Accom. Vent Fan	2	1.5	1	"	7	"	165	"	"
"	2	1	1	"	4.7	"	130	"	"
"	2	1.25	1	"	5.9	"	115	"	"
Galley Burner Fan	1	1	1	"	4.8	"	250	"	"
Laundry Mach.	1	1	1	"	4.6	"	195	"	"
Bridge F.W.P.	1	1	1	"	"	"	80	"	"
Ice Box	2	1	1	0.003	1.3	7	66	"	"

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. Yoshikawa Electrical Contractors. Date _____
 THE HAYAMA SHIPBUILDING AND
 ENGINEERING COMPANY, LTD.

COMPASSES.

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

M. Yoshikawa Builder's Signature. Date _____
 THE HAYAMA SHIPBUILDING AND
 ENGINEERING COMPANY, LTD.

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 **NISSYO-MARU**

Plans. Are approved plans forwarded herewith **No** If not, state date of approval _____

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

Noted 08/11/52

Total Capacity of Generators **560** Kilowatts.

The amount of Fee ... **¥268,878** : When applied for, _____ 19_____
 Travelling Expenses (if any) £ : : When received, _____ 19_____

Shunji Honohura
 Surveyor to Lloyd's Register of Shipping.

TUES. 12 AUG 1952

Committee's Minute _____

Assigned *See P.E. mch. rpt.*

MADE AND PRINTED AT KOBE.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)