

29 SEP 1953

Rpt. 13.

No. 1536

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

27. AUG 1953

Date of writing Report June 22nd 1953 When handed in at Local Office 19 Port of KOBE

No. in Survey held at Aioi Japan Date, First Survey 10-2-53 Last Survey 30-6-53
Reg. Book. (No. of Visits 18)

Tons Gross 17808.11
Net 13397.88

on the Steel Single Screw S.T. "KOHO-MARU"
The Harima Shipbuilding
Built at Aioi Japan By whom built & Engineering Co., Ltd. Yard No. 477 When built July 1953

Owners Iino Kaiun K.K. Port belonging to Tokyo
Installation fitted by The Harima Shipbuilding & Engineering Co., Ltd. When fitted July 1953.

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 Single-phase Two-wire & Three-phase Three-wire Voltage of Lighting 110
Heating 220 Power 440V for Engine room A.C. Power A.C. If A.C. state frequency 60
220V for deck D.C. or A.C., Lighting

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 Synchronous Generators, are they compound wound generators, and level compounded under working conditions

if not compound wound state distance between generators and from switchboard Are the generators arranged to run
in parallel Yes Automatic Volt regulators Yes Is the compound winding connected to the negative or positive 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 Generator Platform, 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
Main Switch Board Platform After 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 Synthetic insulating material 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 550 KVA Main generator; 3-pole Disconnecting Switch,
3-pole circuit Breaker with overload and Reverse-Power Trips.

For 90 KVA Aux. Generator; 3-pole circuit Breaker with overload Trip.
and the switch and fuse gear (or circuit breakers) for each outgoing circuit.

3-pole Non Fuse Breaker

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instrument on aux. switchboard 4
Instruments on main switchboard 17

ammeters 2 voltmeters 2 synchronising devices. For compound machines in parallel are the ammeters and reversed current
protection devices connected on the pole opposite to the equaliser connection. 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 Electric Mfg. Co. Ltd. Yes If circuit breakers are provided for the generators, at what
overload do they operate 50 % over power 105 A (15%)
and at what current do the reversed current protective devices operate Yes

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule
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 9.56 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, lavatories, 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 protected by strong steel-iron plating
Gang way : Substantial channels of steel plate.

On deck
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

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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
For wireless 48V-200A.H-2sets, For Fire alarm 24V-24A.H-1sets
state battery capacity in ampere hours. For communication & lighting, 24V-200A.H-2sets, For gyro compass }

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 Lighting fitting for pump room & under bridge sto
if so, how are they protected. Flame-proof approved type
in adjacent accommodation passage

and where are the controlling switches fitted. Yes Are all fittings suitably ventilated. Yes

Searchlight Lamps, No. of 1, whether fixed or portable. portable, 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, 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 Electric 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
Engine Room Bottom Eng. Room Bottom

E.S.D., if fitted state maker Nihon Denki K.K. location of transmitter (F.No. 53-54) and receiver (F.No. 53-54 S.S.)
P.S.

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				PRIME MOVER.	MAKER.
			KVA per Generator.	Volts.	Amperes.	Revs. per Min.		
MAIN Turbo Gen. ...	2	Tokyo Shibaura Elec. Co., Ltd.	550	450	705	1200	Turbo Engine	Ishikawajima Heavy Industry Co., Ltd.
Aux. Gen. ...	1	"	90	450	115.5	600	Diesel Engine	Ito Tekkoshō
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS. KVA	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Strands. Sq. ins.	In the Circuit.	Rule.			
MAIN GENERATOR ...	550	3	0.3	705	780	124	Varnished Cambric	Load Alloy Sheathed & Armoured
" " EQUALISER ...								
Aux. Generator	90	1	0.15	115.5	166	39	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR...								

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

Section	DESCRIPTION.		No.	Sectional Area of Strands. Sq. ins.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
					In the Circuit.	Rule.			
No.6-5 Box (For Air Compressor)			1	0.0145	9.2	19	230	Rubber	"
No.6-7 " (G.S & Bilge Ballast P.)			1	0.06	59.4	91	262	V.C.	"
No.6-8 " (Evaporator)			1	"	37.05	"	105	"	"
No.6-9 " (Eng. Boil. Rm. V. F.)			1	0.04	46.25	70	92	"	"
No.7-3 " (Sanitary, F.W. P.)			1	"	57.6	"	137	"	"
No.7-4 " (Boil. Rm. Power)			1	0.0145	16.7	38	315	"	"
No.7-5 " (Red. Machine)			1	"	24.4	"	144	"	"
No.8-1 " (Battery Charge M.C)			1	0.04	26	70	1110	"	"
No.8-2 " (Eng. Rm. 220V power)			1	0.06	50.5	91	92	"	"
No.8-3 " (Mid Ship Power)			1	"	55.64	"	850	"	"
No.8-4 " (After - Power)			1	0.1	82.4	128	150	"	"
No.8-6 " (Mid ship power)			1	0.0225	37.6	51	280	"	"
440V shore Line			1	0.2	180	200	210	"	"
220V " "			1	"	"	"	243	"	"

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MOTOR CABLES, TRANSFORMER CABLES

Accom. Vent. Fan	1	3.5	1	0.0145	9.5 ✓	19	183	R	L. & A.
"	4	3	1	0.007	8.3 ✓	12	196	"	"
"	3	2.5	1	0.007	7.3 ✓	12	196	"	"
"	1	2	1	0.0045	5.4 ✓	11	79	"	"
"	1	1.5	1	0.0045	4.7 ✓	11	79	"	"
"	3	1	1	0.0045	3.3 ✓	11	79	"	"
"	1	$\frac{1}{2}$	1	0.0045	1.7 ✓	11	124	"	"
Galley Burner Fan	2	1	1	0.0045	3.5 ✓	11	100	"	"
Laundry Mach.	2	1	1	0.0045	3.3 ✓	11	111	"	"
Lub. Oil Purifier	1	2	1	0.0145	5.1 ✓	38	85	V.C.	"
D.O. Transfer Pump	1	2	1	0.01	5.4 ✓	16	85	R	"
Engine Turning	1	13	1	0.0225	4.0 ✓	51	130	V.C.	"
Bean Curd	1	$\frac{1}{2}$	1	0.0045	1.7 ✓	11	32	R	"
Domestic Ref.	3	$\frac{1}{2}$	1	0.0045	1.6 ✓	11	100	"	"
Sounding Mach.	1	1.5	1	0.0045	5 ✓	11	130	"	"
Room Air Conditioner	6	1	1	0.007	6.9 ✓	12	130	R	"
"	5	$\frac{3}{4}$	1	0.007		12	196	"	"
Boil, Tube Cleaner	1	2	1	0.0225	11 ✓	51	300	V.C.	"
Transformer for Light.	3 {	20 KVA	1	0.0225	45.5 ✓	51	25	V.C.	"
" (Secondary)	115V {	20 "	1	0.15	133 ✓	166	25	"	"
" for deck power	3 {	25 KVA	1	0.04	57 ✓	70	25	"	"
" (Secondary)	440V / 230V {	25 "	1	0.1	109 ✓	128	25	"	"



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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. Yoshikawa
THE HARIMA SHIPBUILDING AND
ENGINEERING COMPANY, LTD.

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions Yes

M. Yoshikawa
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 YUHO - MARU

Plans. Are approved plans forwarded herewith No If not, state date of approval 19th March, 1953

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 are sound and good.

The generators and motors etc. have been examined under full load working condition to the Rule's requirement and found satisfactory.

Noted sum 2/10/53

Total Capacity of Generators 1,190 KVA. ~~XXXXXX~~

The amount of Fee ...

£323.000

When applied for, 27. AUG 1953

Travelling Expenses (if any) £

When received, 19

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

Committee's Minute

FRIDAY 16 OCT 1953

Assigned

See Rpt 4a.