

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

21 JAN 1958

Date of writing Report JAN - 6, 1958 When handed in at Local Office JAN 13, 1958 Port of Kobe

No. in Survey held at Aioi, Japan Date, First Survey 17th Aug. Last Survey 21st Oct, 57
 Reg. Book. (No. of Visits 15)

on the Steel Single Screw M.V. "HOEI - MARU" Tons Gross 20,157.13
Net 14,000.38

Built at Aioi, Japan By whom built Harima S.B. & Eng. Co., Ltd Yard No. 512 When built 1957-10

Owners Nitto Shosen K.K. Port belonging to Tokyo

Installation fitted by Harima Shipbuilding & Engineering Co., Ltd. When fitted 1957-10

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 Three Phase Three wire Voltage of Lighting 110 V

Heating 110 V Power 440 V D.C. or A.C. A.C. Lighting A.C. Power A.C. If A.C. state frequency 60 Cycle

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 No Generators, are they compound wound -, and level compounded under working conditions -

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines

under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Engine Room Lower Floor

Fore Section., Built seat on tank top

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 Engine room Forward

on the switchboard flat above cargo oil pump Turbines

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 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 Three pole 600 A. A.C.B. with overload and

reverse trip device for Main Generators and three pole 400 A. A.C.B. with overload

trip device for aux. Generator

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

Current rating of out going circuit 0 - 30A : 60 Amp. frame circuit breaker

31 - 100A : 100 Amp. "

100 - 200A : 225 Amp. "

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 11

ammeters 8 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided -

Earth indicating lamps - Preference Tripping, state if provided -, and tested -

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

make of fuses 440 V : Fuji denki K.K. Yes are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate 25 % over, and at what current do the reverse Power protective-

devices operate 15 % 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 6.16 volts. 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 State

type of cables (if in conduit this should also be stated) in machinery spaces V.L.C. RLC. galleys RLC, PLC

and laundries - State how the cables are supported or protected Clipped to solid or perforated

steel tray, pipe, structural steel or wood work and covered as

necessary

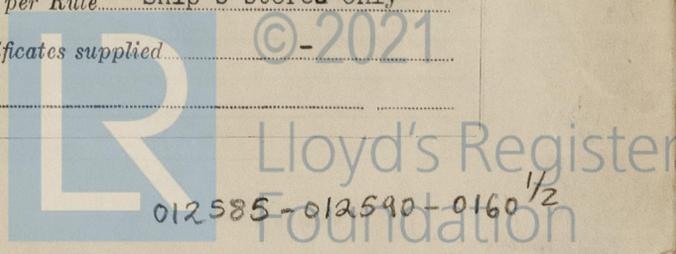
Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

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 Ship's stored only

Have refrigeration fan motors been constructed under survey - and test certificates supplied -

Are the motors accessible for maintenance at all times -



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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 None

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, fitted and adequately ventilated as per Rule... Yes state battery capacity in ampere hours... 24 V 200 AH. Where required to do so does it comply with 1948 International Convention... Yes

Lighting, is fluorescent lighting fitted... Yes If so, state nominal lamp voltage... 110 V and compartments where lamps are fitted... Captain's Day room, Saloon, Smoking room

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... Yes

Searchlights, No. of... -, whether fixed or portable... -, are they of the carbon arc or of the 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

Lightning Conductors, where required are they fitted as per Rule... Yes

Ships carrying Oil having a Flash Point of 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... 440 V-- Fuji Denki K.K. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... Yes Are all cables lead covered as per Rule... Yes

E.S.D., if fitted state maker... Tokyo Keiki location of transmitter and receiver... Engine room Bottom Frames No. 58-59

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.	KVA RATED AT				PRIME MOVER.	
			No. in Parallel per Pole.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Mitsubishi Denki K.K.	330	445	428	514	Diesel	Mitsubishi Heavy Ind.Ltd. Tokyo
Aux. EMERGENCY ROTARY TRANSFORMER	1	Mitsubishi Denki K.K.	200	445	260	514	"	Daihatsu Kogyo K.K.

GENERATOR CABLES.

DESCRIPTION.	No. of	KVA	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 (Starboard)	1	330	3	0.15	428	✓ 498	72'	VC	L, C & B
" EQUALISER									
" (Port)	1	330	3	0.15	428	✓ 498	95'	VC	"
Aux. EMERGENCY GENERATOR	1	200	2	0.15	260	✓ 332	65.8'	VC	"

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	KVA	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet)	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	In the Circuit.	Rule.		
Midship sub-switch board	30-1	0.1	59.2	✓ 128A	408'	VC	L, C & B
Shore connection box	30-1	0.2	200	✓ 200A	82'	VC	"

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

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.			
NO.6-5 Section Box(Boil.F.,Boil.Oil Burn.P.)	1	0.1	56.1	✓ 128	174	VC	L, C & B
NO.6-4 " (Exh.gas.boil.cir.P.,F.W.P.)	1	0.0225	36.68	✓ 51	103	VC	"
NO.6-3 " (Sanitary Pump,Feed Suc. P.)	1	0.0225	36.68	✓ 51	98.4	VC	"
NO.6-2 " (Evap. p. Bilge pump)	1	0.06	62.35	✓ 91	52.5	VC	"
NO.6-1 " (F.O. Purifier,F.O.Purifier,F.O. Service P.,F.O. Trans.P.)	1	0.0225	8.0	✓ 23	118	RC	"
NO.6-10 " (L.O. Purifier,L.O.Trans.P.)	1	0.0225	42.5	✓ 51	49.3	VC	"
NO.6-11 " (Eng.room vent. fan)	1	0.0225	44	✓ 51	105	VC	"
NO.6-12 " (Pump room vent. fan)	1	0.0225	22.9	✓ 51	216	VC	"
NO.6-7 " (Universal Lathe,Grinder,welder)	1	0.0225	22.9	✓ 51	216	VC	"
NO.6-9 " (Ref. Machine)	1	0.0225	22.9	✓ 51	216	VC	"
NO.6-7 " (Accommo. Vent. F.)	1	0.0145	14.7	✓ 38	98.5	VC	"
NO.6-9 " (Galley store,exh.)	1	0.0225	26.4	✓ 51	135	VC	"
NO.6-9 " (Air conditioner)	1	0.0225	26.4	✓ 51	135	VC	"
Wireless switch board	1	0.0225	10	✓ 51	32.8	RC	"
NO.7-1 Section Box(Ref. & heater)	1	0.04	27	✓ 70	233	VC	"
NO.7-3 " (Poop. Deck L. Upp.deck)	1	0.1	77.8	✓ 128	65.7	VC	"
NO.7-4 " (After cargo L.)	1	0.1	77.8	✓ 128	65.7	VC	"
NO.7-4 " (Eng. & Boiler Room L.)	1	0.1	85	✓ 128	39.3	VC	"
NO.7-5 " (Alarm Panel & tyfon etc.)	1	0.0225	10	✓ 51	49.2	VC	"
NO.7-6 " (Boiler tube cleaner)	1	0.0145	12.3	✓ 38	46	VC	"
NO.7-6 " (Magnet clutch)	1	0.0145	12.3	✓ 38	46	VC	"
NO.S-1 " (Fore ref. & Heater)	1	0.01	14	✓ 16	46	RC	"
NO.S-2 Sec. Board (Running L. & Lighting)	1	0.06	76.9	✓ 91	3.28	VC	"
NO.S-3 " (Nautical instrument & communication)	1	0.0045	5	✓ 11	26.2	RC	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sec. area sq. inch	A Rule		Ft	Insulation	L, C & B	
				A	Rule				
Steering Gear	2	35	1	0.04	56	✓ 70	256/356	VC	L, C & B
Cool. Fresh W.P. (Jacket)	1	50	1	0.04	59	✓ 70	115	VC	"
" (Piston)	2	45	1	0.04	53	✓ 70	115/116	VC	"
L.O. pump	1	30	1	0.0225	39	✓ 51	118	VC	"
F.V. cooling water pump	2	3	1	0.003	3.68	✓ 7	151/154	RC	"
F.O. Booster Pump	2	4	1	0.0045	5.4	✓ 11	69/72	RC	"
G.S. & Fire pump	1	45	1	0.04	53	✓ 70	115	VC	"
Eng. Turning gear	1	18	2	0.0145x2	22.3	✓ 38x2	174	VC	"
L.O. transfer pump	1	4	1	0.0045	5.4	✓ 11	23	RC	"
F.O. transfer pump	1	15	1	0.0225	21	✓ 23	69	RC	"
F.O. service pump	1	4	1	0.0045	5.4	✓ 11	59	RC	"
Bilge pump	1	3	1	0.003	4.05	✓ 7	42.6	RC	"
Eva. feed pump	1	4	1	0.0045	5	✓ 11	75.5	RC	"
Feed Supply pump	1	1	1	0.003	1.48	✓ 7	62.4	RC	"
Fresh water pump	1	5	1	0.0045	7	✓ 11	16.4	RC	"
Sanitary pump	2	7.5	1	0.01	9.1	✓ 16	95/103	RC	"
B.O. Burning pump	1	5	1	0.007	6.7	✓ 19	103	VC	"
Boiler fan	1	35	1	0.0225x2	45	✓ 51x2	65.6	VC	"
Eng. room Vent. fan	3	7.5	1	0.01	10	✓ 16	103/230	RC	"
Pump room vent. fan	1	10	1	0.001	12.5	✓ 16	46	RC	"
Accommodation Fan	3	5	1	0.0045	6.3	✓ 11	33/97	RC	"
Universal lathe	1	5	1	0.0045	6.2	✓ 11	29.5	RC	"
Grinder	1	1	1	0.003	1.4	✓ 7	19.7	RC	"
Electric welder	1	18 KVA	1	0.0145	36.4	✓ 38	19.7	VC	"
Ref. compressor	2	7.5	1	0.0045	10.1	✓ 11	66/79	RC	"
Tube Cleaner	1	2	1	0.007	10.8	✓ 19	102	VC	"
Cooling sea water pump	2	55	1	0.06	66	✓ 91	69/72	RC	"
Exhaust gas boil. cir. pump	2	4	1	0.01	5	✓ 16	59/69	RC	"
Ref. Compressor cooling pump	1	2	1	0.003	2.7	✓ 7	131	"	"

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.

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.

[Signature] Electrical Contractors. Date 20-11-57
M. Tachibana, Director,
THE HARIMA SHIPBUILDING & ENGINEERING CO., LTD.
AIOI WORKS

COMPASSES.

Have the compasses been adjusted under working conditions. Yes

[Signature] Builder's Signature. Date 20-11-57
M. Tachibana, Director,
THE HARIMA SHIPBUILDING & ENGINEERING CO., LTD.
AIOI WORKS

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

Is this installation a duplicate of a previous case. No If so, state name of vessel -

Plans. Are approved plans forwarded herewith. No If not, state date of approval Jan. 28, 1957

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The electrical installation of this ship has been installed under Special Survey in accordance with the Rules, Approved plans and Secretary's letters, tested on board under full working conditions and found satisfactory.

The materials and workmanship are sound and good.

500,450 - Transfer. (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minutes.)

x+x
x+x
23.1-5D

Total Capacity of Generators 860 KVA Kilowatts.
330KVA x 2 Generators ¥41,000.-) Mitsubishi Elect.KOBE 22/7/57.
200KVA x 1 " " 22,000.-)
The amount of Fee ... £ : : When applied for, 19
When received, 19
Travelling Expenses (if any) £ See: Rpt. 1

[Signature]
Surveyor to Lloyd's Register of Shipping.

TUESDAY 25 MAR 1958

Committee's Minute.....

Assigned *See Rpt. 1.*



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