

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 13 JUN 1936

Date of writing Report May 12<sup>th</sup> 1936 When handed in at Local Office 20<sup>th</sup> May 1936 Port of Kobe.

No. in Survey held at OH, HARIMA. Date, First Survey \_\_\_\_\_ Last Survey 19  
Reg. Book. \_\_\_\_\_ (Number of Visits.....)

on the SINGLE SCREW VESSEL "KASHII MARU" Tons { Gross 6823.  
Net 3663.

Built at OH, HARIMA. By whom built HARIMA S. & E. Co LTD Yard No. 215. When built 1936

Owners KOKUSAI KISEN KAISHA. Port belonging to TOKIO.

Electric Light Installation fitted by HARIMA S & E. Co. LTD Contract No. 215 When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Direct current, two wire insulated system  
Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes

Generators, do they comply with the requirements regarding rating yes, are they compound wound yes

are they over compounded 5 per cent. no (see letter), if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel yes, is an adjustable regulating resistance fitted in series with each shunt field yes

Are all terminals accessible, clearly marked, and furnished with sockets yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yes

Position of Generators Port side of main engine room, are they clear of all inflammable material yes

is the ventilation in way of the generators satisfactory yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

no wood work and yes, are the generators protected from mechanical injury and damage from water, steam or oil yes

are their axes of rotation fore and aft yes are the prime movers and

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes their respective generators in metallic contact yes

Main Switch Boards, where placed Forward end of engine room on starting platform

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ✓

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes

are they protected from mechanical injury and damage from water, steam or oil yes, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards no woodwork near

are they constructed wholly of durable, non-ignitable non-absorbent materials yes, is all insulation of high dielectric strength and of

permanently high insulation resistance yes, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

and is the frame effectively earthed yes Are the fittings as per Rule regarding: - spacing or shielding of live parts

yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus

bars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches. For each generator: D.P. overload + reversed current linked switch also linked to equalizer switch.

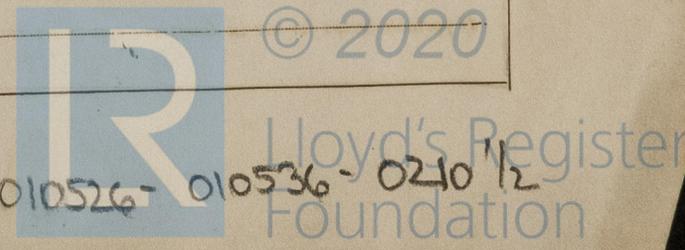
For each outgoing circuit: - D.P. linked switches + a fuse on each pole.

Instruments on main switchboard 13 ammeters 3 voltmeters ✓ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes



Cables: Single, twin, concentric, or multicore. *single & twin* are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 8 volts*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *yes*

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *yes*

Support and Protection of Cables, state how the cables are supported and protected *steel supports with metal clips*  
*Lead covered Armoured where exposed to risk of mechanical damage.*

If cables are run in wood casings, are the casings and caps secured by screws *yes*, are the cap screws of brass *yes*, are the cables run in separate grooves *yes*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *yes*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *yes*

Joints in Cables, state if any, and how made, insulated, and protected *none*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *yes*

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *yes* state the material of which the bushes are made *lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *none*

are their connections made as per Rule *yes*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *yes*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *Storage batteries for E.R. lights*

Navigation Lamps, are these separately wired *yes*, controlled by separate switch and separate fuses *yes*, are the fuses double pole *yes*

are the switches and fuses grouped in a position accessible only to the officers on watch *yes*

has each navigation lamp an automatic indicator as per Rule *yes*

Secondary Batteries, are they constructed and fitted as per Rule *yes*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *yes*

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *in two air decks, strong metal grates & stout glass bowls*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *none*

how are the cables led *yes*

where are the controlling switches situated *yes*

Searchlight Lamps, No. of *yes*, whether fixed or portable *yes*, are their fittings as per Rule *yes*

Arc Lamps, other than searchlight lamps, No. of *yes*, are their live parts insulated from the frame or case *yes*, are their fittings as per Rule *yes*

Motors, are their working parts readily accessible *yes*, are the coils self-contained and readily removable for replacement *yes*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *yes*

are they protected from mechanical injury and damage from water, steam or oil *yes* are their axes of rotation fore and aft *yes*

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *yes*

if not of this type, state distance of the combustible material horizontally or vertically above the motors *yes* and *yes*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *yes*

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *yes*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes*

*yes*

*yes*

*yes*

*yes*

*yes*

*yes*

*yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	160	225	710	360	Heavy Oil Engine	Heavy Oil	Above 150° F.
AUXILIARY	✓							
EMERGENCY	✓							
ROTARY TRANSFORMER	✓							

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
MAIN GENERATOR	2	0.976	91	2.0 mm	710	986	234	paper	Lead cov. + Am.
EQUALISER CONNECTIONS	1	0.488	91	2.0 mm	355	493	117	"	" " "
AUXILIARY GENERATOR	✓								
EMERGENCY GENERATOR	✓								
ROTARY TRANSFORMER MOTOR GENERATOR	✓								
ENGINE ROOM	1	0.0069	7	0.9 mm	11.7	23	208	rubber	Lead cov. + Am.
BOILER ROOM	1	0.0069	7	"	8.3	"	138	"	" " "
AUXILIARY SWITCHBOARDS	✓								
ACCOMMODATION									
Shipping bridge, boat deck	1	0.0216	7	1.6 mm	41.5	45	240	rubber	L.C.A.
Shelter deck	1	0.00412	7	1.2	13.2	34	198	"	"
"	1	0.00412	7	0.7	2.9	13	779	"	"
WIRELESS	1	0.0582	19	1.6 mm	50	133	264	paper	L.C.A.
SEARCHLIGHT	✓								
MASTHEAD LIGHT	1	0.0031	1	1.6 mm	0.2	12	792	rubber	L.C.A.
SIDE LIGHTS	1	0.0031	1	1.6 mm	0.2	12	158	"	"
COMPASS LIGHTS	1	0.0031	1	1.6 mm	0.1	12	132	"	"
POOP LIGHTS	1	0.0031	1	1.6	0.2	12	858	"	"
CARGO LIGHTS	1	0.0216	7	1.6	30	45	198	"	"
ARC LAMPS	✓								
HEATERS & cabin fans	1	0.0582	19	1.6	67.9	133	250	paper	L.C.A.

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
BILGE & BALLAST PUMP	1	1	0.09	19	2.0 mm	114	180	290	paper	L.C.A.
MAIN BILGE LINE PUMPS	✓									
GENERAL SERVICE PUMP	1	1	0.09	19	2.0 mm	155	180	290	"	"
EMERGENCY BILGE PUMP	1	1	0.0216	7	1.6 mm	41	45	264	Rubber	"
SANITARY PUMP	1	1	0.0216	7	1.6	41	45	218	"	"
CIRC. SEA WATER PUMPS	2	1	0.488	91	2.0	388	493	264	paper	"
CIRC. FRESH WATER PUMPS	2	1	0.312	91	1.6	335	371	277	"	"
AIR COMPRESSOR	1	1	0.488	91	2.0	408	493	185	"	"
FRESH WATER PUMP	1	1	0.0069	7	0.9	73	23	218	Rubber	"
ENGINE TURNING GEAR	1	1	0.0582	19	1.6	60	150	396	paper	"
ENGINE REVERSING GEAR	✓									
LUBRICATING OIL PUMPS	2	1	0.09	19	2.0	160	180	211	paper	"
OIL FUEL TRANSFER PUMP	2	1	0.0582	19	1.6	87	133	250	"	"
WINDLASS	1	1	0.488	91	2.0	420	709	528	"	"
WINCHES, FORWARD 53HP.	2	1	0.127	37	1.6	207	248	99	"	"
33HP.	6	1	0.0582	19	1.6	130	150	99	"	"
WINCHES, AFT 53HP.	3	1	0.127	37	1.6	207	248	363	"	"
23HP.	6	1	0.0582	19	1.6	130	150	99	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR	1	1	0.09	19	2.0	95	180	66	"	"
(b) MAIN MOTOR	1	1	0.0582	19	1.6	71	150	660	"	"
WORKSHOP MOTOR	1	1	0.0069	7	0.9	13.2	23	171	Rubber	"
VENTILATING FANS	4	1	0.0069	7	0.9	14	23	184921	"	"
LUB. OIL PURIFIER	2	1	0.0069	7	0.9	13	23	171	"	"
LUB. OIL SERVICE PUMP	2	1	0.0069	7	0.9	15	23	145	"	"
FUEL " " "	2	1	0.0069	7	0.9	15	23	251	"	"
FUEL " PURIFIER	3	1	0.0042	7	0.7	13	15.5	52	"	"
PORT SERVICE PUMP	1	1	0.0582	19	1.6	71	133	194	paper	"
CRANE	1	1	0.0228	19	1.2	50	60	356	Rubber	"
DRAIN WATER	1	1	0.0069	7	0.9	6.8	23	209	"	"
REARIG. MACHINE	3	1	0.0042	7	0.7	10.5	15.5	20	"	"
" " "	1	1	0.0042	7	0.7	3.35	15.5	182	"	"
SOUNDING " "	1	1	0.0069	7	0.9	17	23	825	"	"

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All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

*Suzuta*

Electrical Engineers.

Date



COMPASSES.

Distance between electric generators or motors and standard compass 15 ft. from motor for Auto-steerer.

Distance between electric generators or motors and steering compass 6 " " " " " "

The nearest cables to the compasses are as follows:—

A cable carrying 0.05 Ampères 1 feet from standard compass ✓ feet from steering compass. } for lighting.
A cable carrying 0.05 Ampères ✓ feet from standard compass 1 feet from steering compass.
A cable carrying ✓ Ampères ✓ feet from standard compass ✓ feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power yes.

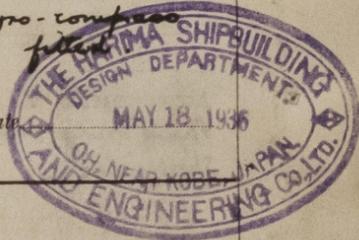
Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted yes.

The maximum deviation due to electric currents was found to be 0 degrees on any course. course in the case of the standard compass, and 0 degrees on any course in the case of the steering compass. NOTE :- Gyro-compass

*Suzuta*

Builder's Signature.

Date



Is this installation a duplicate of a previous case no If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Electrical Installation of this vessel has been fitted under Special Survey in accordance with the Rules & approved plans.

The materials & workmanship are good.

On completion the installation was tested under full working conditions & found to be efficient & is eligible, in our opinion, to be accepted for classification.

NOTE :- The spare gear placed on board is in excess of that required by the Rules.

*Wid*

*214*  
*15/6/36*

Total Capacity of Generators 480 Kilowatts.

The amount of Fee £ 54-7-6 When applied for, Apr 18 1936

Travelling Expenses (if any) £ : : When received, Apr 25 1936

*e. Macpherson & Yamada*  
Surveyor to Lloyd's Register of Shipping.

TUE. 23 JUN 1936

Committee's Minute

Assigned

*See other Kob. J.E. 9536*

2m, 3, 31.—Transfer  
The Surveyors are requested not to write on or below the space for Committee's Minute.



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