

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 20 AUG 1936

Received at London Office.....

Date of writing Report 15th July 1936 When handed in at Local Office 30th July 1936 Port of Kobe

No. in Survey held at KOBE v. O.H. HARIMA Date, First Survey 5th Sep. 1935 Last Survey 29th June 1936
Reg. Book. (Number of Visits.....)

on the Single Screw vessel KAGU MARU Tons { Gross 6807
Net 3688

Built at O.H. HARIMA By whom built HARIMA S.E. Co., LTD. Yard No. 216 When built 1936

Owners KOKUSAI KISEN KAB. KAISHA Port belonging to TOKIO

Electric Light Installation fitted by HARIMA S.E. Co., LTD. Contract No. 216 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. 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 Starboard side of main engine room ✓

is the ventilation in way of the generators satisfactory. Yes ✓, are they clear of all inflammable material. 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 ✓, are the generators protected from mechanical injury and damage from water, steam or oil. Yes ✓,

are their axes of rotation fore and aft. Yes ✓

Earthing, are the bedplates and frames of the generating plant efficiently earthed. Yes ✓ are the prime movers and

their respective generators in metallic contact. Yes ✓

Main Switch Boards, where placed Forward 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 and 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 & reversal current linked switches linked to equalizer switch.

For each outgoing circuit:— D.P. linked switches & a fuse on each pole.

Instruments on main switchboard 16 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 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 2 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 deck 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. Lead state the material of which the bushes are made.

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 tween decks

Strong metal guards, 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

where are the controlling switches situated

Searchlight Lamps, No. of 1, whether fixed or portable. Yes, are their fittings as per Rule. Yes

Arc Lamps, other than searchlight lamps, No. of 1, 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.

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY:	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	160	225	712	380	Heavy oil engine	Heavy oil	113°c
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.	Rule.			
MAIN GENERATOR	2	0.8206	91	0.07874	712	286	190	Paper	Lead covered + Armoured
EQUALISER CONNECTIONS	1	0.4453	91	"	355	493	190	"	"
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER (MOTOR) GENERATOR									
ENGINE ROOM	1	0.01233	7	0.0634	11	34	152	Rubber	Lead covered + Armoured
BOILER ROOM	1	"	"	"	9	"	172	"	"
AUXILIARY SWITCHBOARDS									
ACCOMMODATION									
Flyingbridge boat deck	1	0.022	7	0.0634	31	45	250	Rubber	Lead covered + Armoured
Shelter deck	1	0.01233	"	0.04724	17	34	200	"	"
WIRELESS	1	0.0395	19	0.0634	50	133	264	Paper	Lead covered + Armoured
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.003	1	0.0634	0.36	12	800	Rubber	Lead covered + Armoured
SIDE LIGHTS	1	"	"	"	"	"	180	"	"
COMPASS LIGHTS	1	"	"	"	0.045	"	48	"	"
POOP LIGHTS	1	"	"	"	0.36	"	726	"	"
CARGO LIGHTS	1	0.01233	7	0.04724	185	34	370	"	"
ARC LAMPS									
HEATERS + CAVIN FANS	1	0.0395	19	0.0634	64	133	252	Paper	Lead covered + Armoured

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.	Rule.			
BALLAST PUMP	1	1	0.0595	19	0.0634	114	133	324	Paper	Lead covered + Armoured
MAIN BILGE LINE PUMPS	1	1	0.022	7	"	41	45	"	Rubber	"
GENERAL SERVICE PUMP	1	1	0.0228	19	0.07874	155	180	297	Paper	"
Emergency Bilge Pump	1	1	0.0595	19	0.0634	125	133	300	"	"
SANITARY PUMP	1	1	0.022	7	"	41	45	248	Rubber	"
CIRC. SEA WATER PUMPS	2	1	0.285	91	"	330	371	270	Paper	"
CIRC. FRESH WATER PUMPS	2	1	"	"	"	"	"	298	"	"
AIR COMPRESSOR	1	1	"	"	"	310	"	140	"	"
FRESH WATER PUMP	1	1	0.06811	7	0.0352	13	24	338	Rubber	"
ENGINE TURNING GEAR	1	1	0.0395	19	0.0634	79	150	297	Paper	"
TRAVELLING CRANE ENGINE REVERSING GEAR	1	1	0.03947	"	0.04724	50	57	"	Rubber	"
LUBRICATING OIL PUMPS	2	1	0.0228	"	0.07874	150	180	264	Paper	"
OIL FUEL TRANSFER PUMP	2	1	0.0595	"	0.0634	114	133	159	"	"
WINDLASS	1	1	0.4453	91	0.07874	427	709	542	"	"
WINCHES, FORWARD	4	1	"	"	"	498	"	443	"	"
	4	1	0.285	"	0.0634	390	498	304	"	"
WINCHES, AFT	4	1	0.4453	"	0.07874	"	709	378	"	"
	5	1	"	"	"	653	"	515	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR	1	1	0.0228	19	0.07874	99	180	324	Paper	Lead covered + Armoured
(b) MAIN MOTOR	1	1	0.0595	"	0.0634	71	150	258	"	"
WORKSHOP MOTOR	1	1	0.06811	7	0.0352	132	24	165	Rubber	"
VENTILATING FANS	4	1	0.01233	7	0.04724	28	34	198	"	"
LUBRICATING OIL SERVICE PUMP	2	1	0.022	"	0.0634	35	45	243	"	"
LUB. OIL PURIFIER	2	1	0.01233	"	0.04724	22	34	251	"	"
FUEL OIL SERVICE PUMP	2	1	0.06811	"	0.0352	17.5	"	152	"	"
FUEL OIL PURIFIER	3	1	0.01233	"	0.04724	33	"	83	"	"
DRIP WATER PUMP	1	1	0.06811	"	0.0352	13.5	24	264	"	"
REFRIGERATING MACHINE	1	1	0.022	"	0.0634	37	45	198	"	"
SOUNDING MACHINE	1	1	0.06811	"	0.0352	7	24	323	"	"

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.

THE HARIMA SHIP-BUILDING AND ENGINEERING CO., LTD.

S. Kasuga

Electrical Engineers.

Date 20th July 1936

MANAGING DIRECTOR.

COMPASSES.

Distance between electric generators or motors and standard compass 15 feet from motor for Autosteerer.

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 1 feet from steering compass.

A cable carrying 0.05 Ampères 1 feet from standard compass 1 feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

} for lighting

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 fitted.

THE HARIMA SHIP-BUILDING AND ENGINEERING CO., LTD.

Procurator; S. Kasuga

Builder's Signature.

Date 20th July 1936

MANAGING DIRECTOR.

Is this installation a duplicate of a previous case Yes If so, state name of vessel KASHII MARU

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

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 condition and 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.

Noted
Min
21.8.36

Total Capacity of Generators Kilowatts.

For C. Macpherson & Self

The amount of Fee ... £ 57 : 7 : 8

When applied for, 19

Travelling Expenses (if any) £ 25 : 9 : 36

When received, 19 25/9

G. Hamada
Assistant Surveyor to Lloyd's Register of Shipping.

Committee's Minute 25 AUG 1936

Assigned See minute on 25.8.36

2m, 3, 31. - Transator. The Surveyors are requested not to write on or below the space for Committee's Minutes.



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