

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office..... 1 MAY 1936

Date of writing Report 3rd April 1936 When handed in at Local Office 13th Apr. 1936 Port of KOBE

No. in Survey held at KOBE Date, First Survey _____ Last Survey _____
Reg. Book. _____ (Number of Visits.....)

on the SINGLE SCREW M.S. KINUGASA MARU Tons { Gross 6808
Net 3717

Built at KOBE By whom built KAWASAKI DOCKYD. CO. LTD Yard No. 591 When built 1936

Owners KOKUSAI KISEN KABUSHIKI KAISHA Port belonging to TOKYO.

Electric Light Installation fitted by KAWASAKI DOCKYARD CO. LTD. Contract No. / When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution DIRECT CURRENT. TWO WIRE SYSTEM.

Pressure of supply for Lighting 220 volts, Heating _____ volts, Power 220 volts.

Direct or Alternating Current, Lighting D.C. Power D.C.

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 3 SETS. PORT SIDE OF 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 _____ 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 END OF ENGINE ROOM. BOTTOM 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 YES.

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 WOOD IN VICINITY.

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 EACH GEN.^R TRIPLE POLE

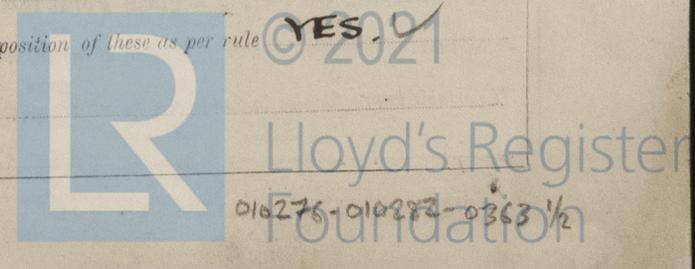
CIRCUIT BREAKER WITH AUTOMATIC OVERLOAD & REVERSE CURRENT RELAY (CENTRE POLE EQUALISER), OUTGOING CIRCUITS TO DIST^N BOARDS, D.P. AUTOMATIC OVERLOAD CIRCUIT BREAKERS, OTHER POWER MOTORS, D.P. LINKED SWITCHES & D.P. FUSES

Instruments on main switchboard 16 ammeters 3 voltmeters NONE 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 EARTH LAMP

WITH 2-WAY SWITCH ON EACH PANEL. 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 or V of the Rules YES ✓

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 VOLTS (APPROXIMATELY) ✓

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 STRONG BRASS CLIPS & PROTECTED BY GALVANIZED IRON SHEETS ✓

If cables are run in wood casings, are the casings and caps secured by screws ✓, are the cap screws of brass ✓, are the cables run in separate grooves ✓. 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 ✓

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 24 VOLTS SECONDARY BATTERY, FITTED ON BOAT DECK, FOR EMERGENCY LIGHTING ✓

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 YES. STOUT GLASS ✓

BOWLS & 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 YES ✓

where are the controlling switches situated YES ✓

Searchlight Lamps, No. of NONE ✓, whether fixed or portable ✓, are their fittings as per Rule ✓

Arc Lamps, other than searchlight lamps, No. of NONE ✓, are their live parts insulated from the frame or case ✓, are their fittings as per Rule ✓

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 ✓

NOT NEAR COMBUSTIBLE MATERIAL ✓, if not of this type, state distance of the combustible material horizontally or vertically above the motors ✓ and ✓

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 STEEL MASTS ✓

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 ✓

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

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	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	1.24	127	0.079	712	1290	120	PAPER	LEAD COVERED & ARMOURED
EQUALISER CONNECTIONS	1	0.62	"	"	365	645	"	"	"
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM									
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION									
WIRELESS	1	0.0365	37	0.0354	20	58	150	RUBBER	L. C. A.
SEARCHLIGHT									
MASTHEAD LIGHT	1	0.0031	1	0.063	0.27	12.9	600	"	"
SIDE LIGHTS	1	"	"	"	"	"	170	"	"
COMPASS LIGHTS	1	"	"	"	0.1	"	40	"	"
POOP LIGHTS	1	"	"	"	0.27	"	100	"	"
CARGO LIGHTS	1	0.0026	51	0.0079	1.2	10.0	180	"	FLEXIBLE.
ARC LAMPS									
HEATERS	1	0.0054	7	0.0314	9.1	21.8	100	"	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.	Rule.			
BALLAST PUMP	1	1	0.106	61	0.047	116	118	230	RUBBER	L. C. A.
MAIN BILGE LINE PUMPS	1	1	0.024	30	0.0314	40	49	215	"	"
GENERAL SERVICE PUMP	1	1	0.167	70	0.0552	149	172	280	"	"
HARBOUR COOLING WATER PUMP	1	1	0.0789	80	0.0354	80	100	150	"	"
SANITARY PUMP	1	1	0.024	30	0.0314	40	49	228	"	"
CIRC. SEA WATER PUMPS	2	1	0.297	61	0.079	330	380	250	PAPER	"
CIRC. FRESH WATER PUMPS	2	1	0.297	61	0.079	330	380	246	"	"
AIR COMPRESSOR	1	1	0.297	61	0.079	315	380	100	"	"
FRESH WATER PUMP	1	1	0.0054	7	0.0314	13	21.8	100	RUBBER	"
ENGINE TURNING GEAR	1	1	0.055	56	0.0354	76	78	320	"	"
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	2	1	0.167	70	0.0552	150	172	215	"	"
OIL FUEL TRANSFER PUMP	2	1	0.134	56	0.0552	114	145	175	"	"
WINDLASS	1	1	0.25	80	0.063	208	377	530	PAPER	"
#1 Switch Box	4	1	0.25	80	0.063	432	459	420	"	"
WINCHES, FORWARD	4	1	0.202	85	0.0552	364	376	380	"	"
FORWARD #2 " "	4	1	0.297	61	0.079	489	523	350	"	"
#3 " "	5	1	0.25	80	0.063	432	459	400	"	"
WINCHES, AFT #4 " "	4	1	0.167	70	0.0552	240	292	50	"	"
EACH 5 TONS WINCH	5 OFF	1	0.167	70	0.0552	240	292	50	"	"
#3 " "	12 OFF	1	0.134	56	0.0552	136	160	50	"	"
STEERING GEAR										
(a) MOTOR GENERATOR	1	1	0.106	61	0.047	100	118	150	RUBBER	"
(b) MAIN MOTOR	1	1	0.0789	80	0.0354	68	100	450	"	"
WORKSHOP MOTOR	1	1	0.0093	12	0.0314	21	28.8	80	"	"
VENTILATING FANS	4	1	0.0054	7	0.0314	15	21.8	75	"	"
OIL FUEL SERVICE PUMP	2	1	0.0054	"	"	17.5	"	100	"	"
LUB. OIL	2	1	0.0054	"	"	17.5	"	100	"	"
DO PURIFIER	3	1	0.0054	"	"	12.5	"	50	"	"
DRIP WATER PUMP	1	1	0.0054	"	"	13.5	"	100	"	"
REFRIGERATOR	3	1	0.0054	"	"	10.5	"	70	"	"
SOUNDING MACHINE	1	1	0.0054	"	"	7	"	400	"	"

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.

Electrical Engineers. Date

COMPASSES.

Distance between electric generators or motors and standard compass MAIN GENERATOR - 95 FT. WIRELESS MOTOR GEN. 70 FT.

Distance between electric generators or motors and steering compass " 250 " MOORING WINCH MOTOR 30 FT

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 20 feet from standard compass 20 feet from steering compass.

A cable carrying 200 Ampères ✓ feet from standard compass 30 feet from steering compass.

A cable carrying 20 Ampères 50 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 in the case of the standard compass, and 0 degrees on ANY course of the steering compass.

Shakajima



11. A. Under'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.

Noted
 How
 5.5.36

Total Capacity of Generators 480 ✓ Kilowatts.

The amount of Fee ... £ 54-7-6 } When applied for, 5th Mar. 1936
 Travelling Expenses (if any) £ : : } When received, 17th Mar. 1936

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

Committee's Minute FRI. 15 MAY 1936

Assigned See other to Kob. 9468



Im. 11. 29. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)