

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 5 NOV 1934

Date of writing Report 8-10-1934 When handed in at Local Office 10 Port of KOBE  
 No. in Survey held at KOBE Date, First Survey 4-7-34 Last Survey 5-10-1934  
 Reg. Book. M/V KIOSUMI MARU. (Number of Visits.....)  
 on the Tons { Gross 6992  
 Net 3829  
 Built at KOBE By whom built KANASAKI DOCKYARD CO. LTD Yard No. 583 When built 1934  
 Owners KOKUSAI KISEN KABUSHIKI KAISHA Port belonging to TOKIO.  
 Electric Light Installation fitted by KANASAKI DOCKYARD CO. LTD Contract No. ✓ When fitted 1934.  
 Is the Vessel fitted for carrying Petroleum in bulk NO.

System of Distribution TWO WIRE D.C. ✓

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. YES ✓, 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 ENGINE ROOM. 1 EMERGENCY STARBOARD SIDE ENGINE ROOM TWEEN DECK.

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 WOODWORK OR COMBUSTIBLE MATERIAL IN VICINITY ✓

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 CENTRAL FACING AFT.

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 ✓ and ✓

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 GENERATOR CIRCUIT

HAS A TRIPLE POLE CIRCUIT BREAKER WITH AUTOMATIC OVERLOAD AND REVERSE CURRENT RELAYS (CENTRE POLE FOR EQUALIZER)

OUTGOING CIRCUITS. PROPER RANGE DOUBLE POLE AUTOMATIC OVERLOAD CIRCUIT BREAKER ✓

Instruments on main switchboard 17 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 EARTH LAMP WITH

TWO WAY SWITCH ON EACH GENERATOR 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 ✓



© 2020

Lloyd's Register Foundation

007465-007473-0207

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% APPROXIMATE.

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 SUPPORTED BY STRONG BRASS CLIPS AND 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 ✓. are their connections made as per Rule ✓.

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 STARBOARD SIDE ENGINE ROOM TWENTY DECK. 30KW D.C. GENERATOR DRIVEN BY DIESEL ENGINE.

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 IRON PLATES.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected ✓. how are the cables led ✓.

where are the controlling switches situated ✓.

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

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

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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	180.	225.	800.	300.	DIESEL ENGINE	HEAVY OIL.	113°C.
AUXILIARY	✓					" "	" "	" "
EMERGENCY	1.	30.	225.	113.	700.	" "	" "	" "
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.	800.	1248.	500.	PAPER.	LEAD COVERED & ARMURED.
EQUALISER CONNECTIONS	1.	0.62.	127.	0.079.	400.	624.	250.	"	" " " "
AUXILIARY GENERATOR	✓								
EMERGENCY GENERATOR	1.	0.17.	70.	0.055.	113.	152.	30.	RUBBER.	" " " "
ROTARY TRANSFORMER MOTOR GENERATOR	✓								
ENGINE ROOM	1.	0.036.	37.	0.035.	26.	64.	330.	"	" " " "
BOILER ROOM	✓								
AUXILIARY SWITCHBOARDS	1.	0.13.	56.	0.055.	113.	130.	260.	"	" " " "
ACCOMMODATION BOAT DECK	1.	0.0093.	12.	0.031.	12.	31.	500.	"	" " " "
SALOON DECK	1.	"	"	"	19.5.	"	400.	"	" " " "
FORWARD	1.	"	"	"	20.	"	530.	"	" " " "
AFT	1.	"	"	"	17.5.	"	600.	"	" " " "
WIRELESS	1.	0.036.	37.	0.035.	20.	64.	400.	"	" " " "
SEARCHLIGHT	✓								
MASTHEAD LIGHT	1.	0.003.	1.	0.064.	0.4.	12.9.	1000.	"	" " " "
SIDE LIGHTS	1.	"	"	"	"	"	160.	"	" " " "
COMPASS LIGHTS	1.	"	"	"	"	"	30.	"	" " " "
POOP LIGHTS	1.	"	"	"	"	"	660.	"	" " " "
CARGO LIGHTS	1.	0.0066.	234.	0.006.	1.1.	6.6.	130.	"	HARD RUBBER.
ARC LAMPS	✓								
HEATERS AND FANS	1.	0.10.	61.	0.047.	82.	118.	423.	"	LEAD COVERED & ARMURED.

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.			
BILGE BALLAST PUMP	1.	1.	0.13.	56.	0.055.	114.	130.	330.	RUBBER.	LEAD COVERED & ARMURED.
MAIN BILGE LINE PUMPS	✓									
GENERAL SERVICE PUMP	1.	1.	0.17.	70.	0.055.	143.	152.	430.	"	" " " "
EMERGENCY BILGE PUMP	1.	1.	0.023.	30.	0.031.	39.	46.	230.	"	" " " "
SANITARY PUMP	1.	1.	"	"	"	"	"	36.	"	" " " "
CIRC. SEA WATER PUMPS	2.	1.	0.25.	80.	0.063.	279.	343.	100.	PAPER.	" " " "
CIRC. FRESH WATER PUMPS	2.	1.	"	"	"	300.	"	"	"	" " " "
AIR COMPRESSOR	1.	1.	0.30.	61.	0.079.	340.	385.	70.	"	" " " "
FRESH WATER PUMP	1.	1.	0.0054.	7.	0.031.	13.	18.	160.	RUBBER.	" " " "
ENGINE TURNING GEAR	1.	1.	0.036.	37.	0.035.	59.	64.	200.	"	" " " "
ENGINE REVERSING GEAR	✓									
LUBRICATING OIL PUMPS	2.	1.	0.17.	70.	0.055.	135.	152.	160.	"	" " " "
OIL FUEL TRANSFER PUMP	2.	1.	0.13.	56.	"	117.	130.	200.	"	" " " "
WINDLASS	1.	1.	0.30.	61.	0.079.	208.	385.	1000.	PAPER.	" " " "
WINCHES, FORWARD	8.	1.	0.30.	61.	0.079.	460.	523.	660.	"	" " " "
WINCHES, AFT	8.	1.	"	"	"	"	"	"	"	" " " "
MOORING WINCH	1.	1.	0.13.	56.	0.055.	216.	252.	660.	"	" " " "
STEERING GEAR	✓									
(a) MOTOR GENERATOR	1.	1.	0.079.	80.	0.035.	92.	97.	230.	RUBBER.	" " " "
(b) MAIN MOTOR	1.	1.	"	"	"	68.	"	830.	"	" " " "
WORKSHOP MOTOR	1.	1.	0.0093.	12.	0.031.	22.	31.	500.	"	" " " "
VENTILATING FANS	4.	1.	0.0054.	7.	"	14.	18.	330.	"	" " " "
OIL FUEL SERVICE	2.	1.	0.023.	30.	"	40.	46.	200.	"	" " " "
LUBRICATING OIL SERVICE	2.	1.	"	"	"	"	"	160.	"	" " " "
OIL FUEL PURIFIER	3.	1.	0.0093.	12.	"	24.	31.	160.	"	" " " "
LUBRICATING OIL PURIFIER	2.	1.	"	"	"	"	"	"	"	" " " "
AUXILIARY COOLING WATER	1.	1.	"	"	"	30.	"	"	"	" " " "
EMERGENCY DYNAMO COOLING W.	1.	1.	0.0054.	7.	"	63.	18.2.	500.	"	" " " "
HOIST	1.	1.	0.036.	37.	0.035.	45.	64.	130.	"	" " " "
REFRIGERATING MACHINERY	5.	1.	0.023.	30.	0.031.	40.	46.	80.	"	" " " "
BOILER & GALLEY OF UNIT.	2.	1.	0.0054.	7.	"	6.	18.2.	330.	"	" " " "
SOUNDING MACHINE	1.	1.	"	"	"	"	"	500.	"	" " " "
DRAIN WATER PUMP	1.	1.	"	"	"	"	"	260.	"	" " " "

© 2020

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.

SEE BELOW. Electrical Engineers. Date

COMPASSES.

Distance between electric generators or motors and standard compass MAIN GENERATORS 80 FEET. WIRELESS GENERATOR 50 FEET.

Distance between electric generators or motors and steering compass MAIN GENERATORS 250 FEET. MIDDING WINCH 20 FEET.

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 15 feet from standard compass 20 feet from steering compass.

A cable carrying 200 Ampères feet from standard compass 20 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 NO.

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard

compass, and degrees on course in the case of the steering compass.

S. Nakashima Builder's Signature. Date 5-10-34.

Is this installation a duplicate of a previous case YES. If so, state name of vessel "KOMAKI MARU"

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 and approved plans.

The materials and workmanship are good.

On completion the installation was tested under full working conditions, and found to be efficient, and eligible in my opinion to have the record of "ELECTRIC LIGHT."

Noted  
 J. M.  
 7/11/34

Total Capacity of Generators 570. Kilowatts.

The amount of Fee £ 57. 3. 9 : 9<sup>th</sup> Oct. 1934  
 Travelling Expenses (if any) £ : : 11<sup>th</sup> Oct. 1934

A. E. Munro  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 NOV 1934

Assigned See 2<sup>d</sup> Rpt on Archy

Im. 11. 23.—Transfer.  
 (The Surveyors are requested not to write on or below this space for Committee's Minutes)



© 2020

Lloyd's Register Foundation