

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

23 SEP 1929

Date of writing Report *20th Aug. 1929* When handed in at Local Office *19* Port of *Kobe*

No. in Survey held at *Kobe* Date, First Survey *9th July 1929* Last Survey *15th Aug. 1929*
Reg. Book. (Number of Visits... *8*...)

on the *Steel Single Screw Motorship "HINO MARU"*

Tons { Gross *2666*
Net *1604*

Built at *Kobe* By whom built *Mitsubishi Zosen Kaisha* Yard No. *188* When built *1929*

Owners *Nippon Shokuen Kaizo Kabushiki Kaisha* Port belonging to *Sarumi*

Electric Light Installation fitted by *Mitsubishi Zosen Kaisha* Contract No. *188* When fitted *1929*

System of Distribution *Two wire closed circuit.*

Pressure of supply for Lighting *225* volts, Heating *225* volts, Power *225* 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 overload *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 and clearly marked *YES*, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited *YES.* Are the lubricating arrangements of the generators as per Rule *YES*

Position of Generators *Bottom engine room platform starboard side.*

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 axis 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 *Bottom engine room platform, starboard side.*

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, incombustible non-absorbent materials *ENAMELLED MARBLE*, is all insulation of high dielectric strength and of permanently high insulation resistance *YES.*, if semi-insulating material is used, are all conducting parts connected to ~~one~~ ^{BOTH} poles insulated from the slab with mica or micaite and the slab similarly insulated from its framework *YES.*, and is the frame effectively earthed *YES.* Are the following fittings as per Rule, viz. :- 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 fitted with double pole circuit breaker, suitable connected with equalizer leads, with overload & reverse current release & double pole switch & overload release.*

Instruments on main switchboard *3 ammeters 2 voltmeters 2 pilot lamps* 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 *2 earth lamps & switches.*

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

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule *YES.*



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Insulation of Cables, state type of cables, single or twin *SINGLE*, are the cables insulated and protected as per Tables III or IV of the Rules *YES*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *5%*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 *✓*

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 *Brass clips, armoured.*

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 VI *YES*.

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

Joints in Cables, state if any, and how made, insulated, and protected *✓*

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 Positions, 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 *✓*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *✓*

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*, are separate screens provided for the use of oil and electric side lights *YES*.

are separate oil lanterns provided for the mast head lights and side lights *YES*.

Fittings, are all fittings on weather decks, in ~~stokehold~~ 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 *✓*

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 axis of rotation fore and aft *MOTORS*.

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 EXCEPT SCAVENGE BLOWER*

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 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	100 each	225	445 each		Diesel Engines.	Diesel Oil	above 150° F.
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	3	.75	91	12	445	100	Rubber	Lead.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	WIRELESS	2	.0145	7	18	9	200	"	"
	SEARCHLIGHT								
	MASTHEAD LIGHT...	1	✓	1	18	✓	244	"	"
	SIDE LIGHTS...	1	✓	1	18	✓	86	"	"
	COMPASS LIGHTS...	1	✓	1	18	✓	48	"	"
	POOP LIGHTS	1	✓	1	16	✓	522	"	"
	CARGO LIGHTS	1	.007	7	20	✓	112	"	"
	ARC LAMPS								
	HEATERS								Heater cancelled.

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.0225 x 2	7	16	40	70	Rubber	Lead.
	MAIN BILGE LINE PUMPS	1	"	"	"	"	74	"	"
	GENERAL SERVICE PUMP	1	.06 x 2	19	"	64	48	"	"
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2	.12 x 2	37	16	88	116	"	"
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	2	.4 x 2	61	13	286	160	"	"
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	1	.0145 x 2	7	18	21	168	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	.0225 x 2	7	16	34	96	"	"
	OIL FUEL TRANSFER PUMP	1	"	"	"	26	144	"	"
	WINDLASS	1	.12 x 2	37	16	131	320	"	"
	WINCHES, FORWARD	4	.1 x 2	19	14	112	316	"	"
	WINCHES, AFT	4	.1 x 2	19	14	112	496	"	"
	STEERING GEAR	1	.06 x 2	19	16	40	540	"	"
	WORKSHOP MOTOR								
	GALLEY VENTILATING FAN	1	.007 x 2	7	20	4.6	174	"	"
	SCAVENGE BLOWER	2	.6 x 2	91	13	336	190	"	"

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.

B. Miyazawa Electrical Engineers. Date *20th Aug 1929.*

COMPASSES.

Distance between electric generators or motors and standard compass *wireless motor 12'-5"*
 Distance between electric generators or motors and steering compass " " *7'-6"*
 The nearest cables to the compasses are as follows :—
 A cable carrying *6.5* Ampères *12'-4.5"* feet from standard compass *7'-6"* feet from steering compass.
 A cable carrying - Ampères - feet from standard compass - 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 *No.*
 Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted
 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.

R. Nakamura Builder's Signature. Date *20th Aug 1929.*

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 reported upon herein, has been constructed under special survey & agrees with the approved plan & Rule requirements. The workmanship & materials employed are good. In my opinion the vessel should be awarded The Highest class.

It is submitted that this vessel is eligible for THE RECORD.

See Sight.

W.A.

24/9/29

Total Capacity of Generators *200* Kilowatts

The amount of Fee ... *£568.-* When applied for, *15th Aug 1929.*

Travelling Expenses (if any) *See Hull Rept.* When received, *28.10.29*

W. Kimber
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 27 SEP 1929*

Assigned *See Sight*

Imp. 9, 24.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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