

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

22 DEC 1924

Date of writing Report *6th Nov 1924* When handed in at Local Office *19* Port of *Yokohama*
 No. in Survey held at *Kurumi Yokohama* Date, First Survey *Aug. 27* Last Survey *Oct 8, 1924*
 Reg. Book. on the *Steel Twin Screw Steamer "Bakuyo Maru"* Number of Visits *10*
 Built at *Kurumi Yokohama* By whom built *Asano Shipbuilding Co* Yard No. *39* Tons { Gross *8603.55*
 Owners *Toy Kisen Kaisha* Port belonging to *When built 1924*
 Electric Light Installation fitted by *Asano Shipbuilding Co* Contract No. *When fitted 1924*

System of Distribution *Two wire*
 Pressure of supply for Lighting *100* volts, Heating *Direct* volts, Power *100* 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 *✓*, 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*
 Position of Generators *Engine Room. Second Deck port 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 *2 ft* and *10 ft*, 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 *Alongside dynamo*
 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 *Same Compartment*
 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 *5 ft* and *10 ft*
 are they constructed wholly of durable, incombustible 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 connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework *Yes, Mica*, 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 *A simple Over-load Circuit breaker & a fuse on each pole — A double pole linked Switch for each Generator — A fuse on each pole & a single pole change over switch on one pole for each outgoing circuit — All Change over switches on the same pole.*
 Instruments on main switchboard *Two* ammeters *One* 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 Single pole two way Switch*
 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 *Both* 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 Volt*
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 *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 *Rubber insulated wire through watertight Cas piping & lead covered & armoured wire throughout with exception of living rooms - lead covered*
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 *Common fuses* 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 *Yes*
Joints in Cables, state if any, and how made, insulated, and protected *Copper joint blocks in section joint boxes*
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 *Conductors used for Earthing*
One of Rubber Insulated Cable with sectional area of 1216 sq. in.
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 *Yes*
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 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*
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 *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 axis 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 *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 *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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	25	110	227	450	Steam			
AUXILIARY	1	10	110	90	450				
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	3	290	19	SWG 14	227	20	Rubber	Cas piping
	AUXILIARY GENERATOR	2	1216	19	" 16	90	14		
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	1	0220	7	" 16	33	12	Rubber	Cas piping
	BOILER ROOM								
	Upper deck forward	1	0220	7	" 16	14	400	Rubber	Cas piping
	" midship	1	0220	7	" 16	16.5	120	do	"
	" aft	1	0220	7	" 16	17.5	290	do	"
	Shell " forward	1	0220	7	" 16	14	510	do	"
	" aft of midship	1	0340	19	" 18	47.5	200	do	"
	" aft	1	0340	19	" 18	30.5	130	do	"
	" aft	1	0220	7	" 16	15.5	420	do	"
	Navigation lamp	1	0070	7	" 20	6.0	340	do	"
	WIRELESS	1	0340	19	" 18	40.0	150	Rubber	Cas piping
	SEARCHLIGHT								
	MASTHEAD LIGHT	1	0030	3	" 20	1.2	610	"	"
	SIDE LIGHTS	1	0030	3	" 20	1.2	120	"	"
	COMPASS LIGHTS	1	0018	1	" 18	.2	60	"	"
	POOP LIGHTS	1	0030	3	" 20	1.2	650	"	"
	CARGO LIGHTS	1	0070	7	" 20	5.0	80	"	Lead covered and Armoured.
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	WORKSHOP MOTOR	1	0070	7	SWG 20	10	210	Rubber	Cas Piping
	VENTILATING FANS								

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.

H. Fukae Electrical Engineers. Date *22 Nov 24*

COMPASSES.

Distance between electric generators or motors and standard compass *from Generators 130 ft, Wireless motor 105 ft.*
Distance between electric generators or motors and steering compass *" 180 ft " 150 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Amperes *10* feet from standard compass *10* feet from steering compass.

A cable carrying *2* Amperes *0* feet from standard compass *0* feet from steering compass.

A cable carrying _____ Amperes _____ 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 *nil* degrees on *Every* course in the case of the standard compass, and *nil* degrees on *Every* course in the case of the steering compass.

M. Sugaw Builder's Signature. Date *22 Nov 24*

Is this installation a duplicate of a previous case *Yes*. If so, state name of vessel *T.S.S. "Ginjo Maru"*

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

The installation has been fitted in accordance with the requirements of the Rules and worked satisfactorily on trial.

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

WD
30/12/24

Total Capacity of Generators *35* Kilowatts

The amount of Fee ... £ *407* : When applied for, *29 Oct 1924*

Travelling Expenses (if any) £ : : When received, *15 Dec 1924*

R. B. Batchelor
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 2 JAN 1925*

Assigned

Im. 8. 11. — Treasurer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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