

Rpt. 13

27 SEP 1932

No. 7879

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)
Received at London Office

27 SEP 1932

Date of writing Report 26 Aug 1932 When handed in at Local Office 3rd Sept. 1932 Port of Kobe.

No. in Survey held at Harima Date, First Survey 28 June 1932 Last Survey 25th Aug 1932
Reg. Book. (Number of Visits.....6.....)

on the Single Screw S/S. JOHORE MARU Tons { Gross 6181.44
Net 3733.66

Built at Harima By whom built Harima S.B. & E.C. Yard No. 184 When built 1932.

Owners Ichihara Gomei Kaisha Port belonging to Fuku

Electric Light Installation fitted by Harima S.B. & E.C. Ltd Contract No. 184 When fitted 1932.

System of Distribution Two-wire system
Pressure of supply for Lighting 110 volts, Heating ✓ volts, Power 110 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 no, 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 Two on Starboard side E.R. one on boat deck in motor 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 In engine room
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 ✓ 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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework ✓

and is the frame effectively earthed ✓ 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 1 single pole air circuit breaker, 250 A double pole knife switch with fuses, one pilot lamp, & one field regulator & feeder panel has 1 change over switch, 10 double pole single throw switches & fuses

Instruments on main switchboard 2 ammeters 2 voltmeters ✓ synchronising device for paralleling purposes. lamp detector

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system ✓

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 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 ✓

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 iron plate cover + brass clips

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 ✓

Joints in Cables, state if any, and how made, insulated, and protected in iron water tight 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 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 on boat deck, controlled by switchboard at same position, generator driven by Gasoline 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 by iron plating

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected no

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 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 ✓

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 | | | Revs. per Min. | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|-------|------------|--------|-------|----------------|--------------|--|----------------------|
| | | Kilowatts. | Volts. | Amps. | | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 2 | 20 | 110 | 182 | 450 | Steam engine | | |
| AUXILIARY | | | | | | | | |
| EMERGENCY | 1 | 15 | 110 | 135 | 1500 | oil engine | gasoline | 85° C |
| 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. Amps. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|------------------------|--------------------|--|------------------------|-----------|------------------------------|--|----------------|----------------|
| | | | | No. | Diameter. | | | | |
| | MAIN GENERATOR | 1 | 0.186 | 37 | 0.08 | 182 | 40 | Rubber | L.C. + A. |
| | EQUALISER CONNECTIONS | | | | | | | | |
| | AUXILIARY GENERATOR | | | | | | | | |
| | EMERGENCY GENERATOR | 1 | 0.119 | 37 | 0.064 | 135 | 40 | " | " " " |
| | ROTARY TRANSFORMER | | | | | | | | |
| | AUXILIARY SWITCHBOARDS | 1 | 0.0612 | 19 | 0.064 | 80 | 200 | " | " " " |
| | ENGINE ROOM | 1 | 0.0224 | 7 | 0.064 | 20 | 20 | " | " " " |
| | BOILER ROOM | " | " | " | " | " | 150 | " | " " " |
| | ACCOMMODATION | " | " | " | " | 31 | 100 | " | " " " |
| | MAIN LINE OF NAV. LT. | 1 | 0.0225 | 7 | 0.064 | 10 | 340 | " | " " " |
| | WIRELESS | 1 | 0.0344 | 19 | 0.048 | 45 | 300 | " | " " " |
| | SEARCHLIGHT | | | | | | | | |
| | MASTHEAD LIGHT | 1 | 0.00322 | 1 | 0.064 | 0.6 | 300 | " | " " " |
| | SIDE LIGHTS | 1 | 0.00322 | 1 | 0.064 | 0.6 | 60 | " | " " " |
| | COMPASS LIGHTS | 1 | 0.00181 | 1 | 0.048 | 0.2 | 40 | " | " " " |
| | POOP LIGHTS | 1 | 0.00322 | 1 | 0.064 | 0.6 | 500 | " | " " " |
| | CARGO LIGHTS | 1 | 0.0344 | 19 | 0.048 | 40 | 120 | " | " " " |
| | ARC LAMPS | | | | | | | | |
| | HEATERS | | | | | | | | |

MOTOR CONDUCTORS.

| Ref. No. | DESCRIPTION. | No. of Motors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. | | Total Maximum Current. Amps. | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
|----------|-------------------------|----------------|--|------------------------|-----------|------------------------------|--|----------------|----------------|
| | | | | No. | Diameter. | | | | |
| | BALLAST PUMP | | | | | | | | |
| | MAIN BILGE LINE PUMPS | | | | | | | | |
| | GENERAL SERVICE PUMP | | | | | | | | |
| | EMERGENCY BILGE PUMP | 1 | 0.0688 | 19x2 | 0.048 | 97 | 300 | Rubber | L.C. + A. |
| | 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— | | | | | | | | |
| | (a) MOTOR GENERATOR | | | | | | | | |
| | (b) MAIN MOTOR | 1 | 0.0344 | 19 | 0.048 | 47 | 60 | " | " " " |
| | WORKSHOP MOTOR | | | | | | | | |
| | VENTILATING FANS | | | | | | | | |
| | OIL PURIFIER | 1 | 0.00312 | 1 | 0.064 | 13 | 80 | " | " " " |
| | SOUNDING MACHINE | 1 | 0.0129 | 7 | 0.048 | 15 | 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.

Harima S.B. & Eng Co Ltd

Electrical Engineers.

Date *29 August 1932*

COMPASSES.

Distance between electric generators or motors and standard compass *120 feet*

Distance between electric generators or motors and steering compass *100 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *0.5* Amperes *12* feet from standard compass *3* feet from steering compass.

A cable carrying *5* Amperes *30* feet from standard compass *7* feet from steering compass.

A cable carrying *1* Amperes *10* feet from standard compass *5* 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 *1* degrees on *1* course in the case of the standard

compass, and *1* degrees on *1* course in the case of the steering compass.

in rate

Builder's Signature.

Date *August 29th 1932*

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

has been fitted under special survey in accordance with the requirements of the Rules and approved plans; the workmanship and materials are good & on completion the installation was tested under full working conditions and found to be efficient & eligible in my opinion to have the record of ELECTRIC LIGHT.

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

cm 4/10/32

Total Capacity of Generators *56* Kilowatts.

The amount of Fee ... *652.96* £ : : When applied for, *2.9.1932*

Travelling Expenses (if any) *£ See Hull Rpt.* : : When received, *3.9.1932*

A. H. Garnett
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Lt.

Assigned

Im. 1.28.—Transfer. (The Surveyors are requested not to write on or between the space for Committee's Minute.)



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