

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

30 JUN 1930

Received at London Office

Date of writing Report 3rd June 1930 When handed in at Local Office 19 Port of YOKOHAMA
 No. in Survey held at YOKOHAMA Date, First Survey 2nd April Last Survey 24th May 1930
 Reg. Book. YOKOHAMA (Number of Visits 12)
 on the Steel Screw M.V. "BRISBANE MARU" Tons { Gross 5425
 Net 3229
 Built at Yokohama By whom built Yokohama Dock Co. Ltd Yard No. 175 When built 1930
 Owners Osaka Shosen Kaisha Port belonging to Osaka
 Electric Light Installation fitted by Yokohama Dock Co. Ltd Contract No. 175 When fitted 1930
 Is the Vessel fitted for carrying Petroleum in bulk no

System of Distribution Two wire
 Pressure of supply for Lighting 100 volts, Heating 120 volts, Power 120 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 One port side engine room & two on starboard side engine room bottom platform
 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 Bottom platform port side of 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 ✓
 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 ✓
 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 Triple pole circuit breaker with overload & reverse current trips and single pole equalizer switch. For outgoing circuits Double pole single throw switches with fuses.
 Instruments on main switchboard 4 ammeters 5 voltmeters ✓ synchronising device for paralleling purposes. Earth lamps.
 Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamps.
 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 & Twin 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

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 metal hangers & 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 yes

Joints in Cables, state if any, and how made, insulated, and protected ends of cables secured by screws in metal 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 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 Rubber insulated wire .011 sq inches

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

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 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 gas proof fittings

through steel tubes

where are the controlling switches situated outside the space

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 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 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 | | | | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | | |
| | | Kilowatts. | Volts. | Ampères. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. | |
| MAIN | 3 | 100 | 225 | 444 | 390 | Oil Engines | Dist oil. | | |
| AUXILIARY | | | | | | | | | |
| EMERGENCY | | | | | | | | | |
| ROTARY TRANSFORMER | 2 | 10 | 180 | 100 | 1400 | D.C. motor. | | | |

| GENERATOR, LIGHTING AND HEATING CONDUCTORS. | | | | | | | | | | |
|---|---------------|--|-----|------------------------|-------------|---------------------------------|------|--|--------------------------|----------------|
| DESCRIPTION. | No. per Pole. | CONDUCTORS. | | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length. (Lead and Return.) Feet. | Insulated with | HOW PROTECTED. |
| | | Total Effective Area per Pole Sq. Ins. | No. | Diameter. | In Circuit. | Rule. | | | | |
| MAIN GENERATOR | 1 | .40640 | 61 | .093 | 444 | 464 | 380 | Paper | Lead Covered & Armoured. | |
| EQUALISER CONNECTIONS | 1 | .24650 | 37 | .093 | 30 | 343 | 190 | " | " | |
| AUXILIARY GENERATOR | | | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | | | |
| ROTARY TRANSFORMER { MOTOR | 1 | .11680 | 37 | .064 | 68 | 130 | 150 | Rubber | " | |
| TRANSFORMER { GENERATOR | 1 | .11680 | 37 | .064 | 100 | 130 | 150 | " | " | |
| ENGINE ROOM | | | | | | | | | | |
| BOILER ROOM | | | | | | | | | | |
| AUXILIARY SWITCHBOARDS | | | | | | | | | | |
| ACCOMMODATION | | | | | | | | | | |
| WIRELESS | 1 | .01046 | 4 | .044 | 17 | 31 | 1500 | Rubber | Lead Covered & Armoured | |
| SEARCHLIGHT | | | | | | | | | | |
| MASTHEAD LIGHT | 1 | .00322 | 1 | .064 | 4 | 12.9 | 600 | " | " Armoured & Braided. | |
| SIDE LIGHTS | 1 | .00152 | 1 | .044 | 4 | 6.1 | 40 | " | Lead covered & Armoured. | |
| COMPASS LIGHTS | 1 | .00152 | 1 | .044 | 1 | 6.1 | 300 | " | " | |
| POOP LIGHTS | 1 | .00322 | 1 | .064 | 4 | 12.9 | 600 | " | " Braided | |
| CARGO LIGHTS | 1 | .00322 | 1 | .064 | 2 | 12.9 | 20 | " | Lead covered & Armoured. | |
| ARC LAMPS | | | | | | | | | | |
| HEATERS | | | | | | | | | | |

| 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 | | | | | | | | | | |
| MAIN BILGE LINE PUMPS | 1 | 1 | .02214 | 4 | .064 | 35 | 46 | 250 | Rubber | Lead covered & Armoured. |
| GENERAL SERVICE PUMP | 1 | 1 | .10090 | 19 | .083 | 100 | 118 | 240 | " | " |
| EMERGENCY BILGE PUMP | | | | | | | | | | |
| SANITARY PUMP | | | | | | | | | | |
| CIRC. SEA WATER PUMPS | 2 | 1 | .19640 | 37 | .083 | 145 | 184 | 250 | " | " |
| CIRC. FRESH WATER PUMPS | | | | | | | | | | |
| AIR COMPRESSOR | 2 | 1 | .19640 | 37 | .083 | 140 | 184 | 230 | " | " |
| FRESH WATER PUMP | | | | | | | | | | |
| ENGINE TURNING GEAR | 1 | 1 | .01462 | 4 | .052 | 30 | 37 | 430 | " | " |
| ENGINE REVERSING GEAR | | | | | | | | | | |
| LUBRICATING OIL PUMPS | | | | | | | | | | |
| OIL FUEL TRANSFER PUMP | 2 | 1 | .02214 | 4 | .064 | 35 | 46 | 320 | " | " |
| WINDLASS | 1 | 1 | .40640 | 61 | .093 | 120 | 357 | 600 | " | " Braided. |
| WINCHES, FORWARD | 6 | 2 | .24650 | 37 | .093 | 360 | 488 | 1000 | " | " |
| WINCHES, AFT | 6 | 2 | .24650 | 37 | .093 | 360 | 488 | 1100 | " | " |
| STEERING GEAR— | | | | | | | | | | |
| (a) MOTOR GENERATOR | | | | | | | | | | |
| (b) MAIN MOTOR | 1 | 1 | .0600 | 19 | .064 | 50 | 83 | 1300 | " | Lead covered & Armoured. |
| WORKSHOP MOTOR | | | | | | | | | | |
| VENTILATING FANS | 2 | 1 | .01046 | 4 | .044 | 28 | 31 | 800 | " | " |

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.

R. Miyake Electrical Engineers.

Date 29th May 1930

COMPASSES.

Distance between electric generators or motors and standard compass 300 feet.

Distance between electric generators or motors and steering compass 400 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 4 Ampères 30 feet from standard compass 20 feet from steering compass.

A cable carrying 10 Ampères feet from standard compass 30 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 yes. with.

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.

J. Teuching Builder's Signature. Date 29th May 1930

Is this installation a duplicate of a previous case YES. If so, state name of vessel SYDNEY MARU & MELBOURNE MARU.

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

The Electrical Installation of this vessel has been fitted onboard this vessel under Special Survey in accordance with the Rules. Materials and workmanship good.

On completion of fitting out all tried under full working conditions with satisfactory results. Insulation resistance tests etc. carried out and found in order.

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

J. 17/7/30

Total Capacity of Generators 300 Kilowatts.

The amount of Fee ... YEN 390.00 : { When applied for, 5/6/30

Travelling Expenses (if any) £ : { When received, 18/6/30

J. Nicholas
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 JUL 1930

Assigned

Elec. Light



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Foundation