

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 19 .. When handed in at Local Office 19 .. Port of **Kobe**

No. in Survey held at **OSAKA** Date, First Survey **20/12/26** Last Survey **18-6-1927**
Reg. Book. (Number of Visits **14**)

on the **Single screw motor ship "CHOKO MARU"** Tons { Gross **2613.47**
Net **1375.43**

Built at **Osaka** By whom built **Osaka Iron Works Ltd** Yard No. **1095** When built **1927**

Owners **Osaka Shosen Kaisha** Port belonging to **OSAKA**

Electric Light Installation fitted by **Osaka Iron Works Ltd** Contract No. **1095** When fitted **1927**

System of Distribution **Two Conductor, Insulated** ✓

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 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 **Two on starboard side & one on port 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 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 **on starboard side of middle platform at aft end 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, incombustible non-absorbent materials **Yes (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 pole insulated from the slab with mica or micanite 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 **linked double pole**

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches **Double pole**

knife switches fitted to circuits on switch boards, & double pole circuit breakers with interlocked equalizer switch.

Instruments on main switchboard **3** ammeters **3** voltmeters **3** 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

Two earth lamp with change switches to positive & negative poles

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.**

Insulation of Cables, state type of cables, single or twin *Twin* 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 VOLTS MAXIMUM.*

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*

Braided moisture resisting cables under E.R.A. floor protected by strong steel Casings *metal hangers with wood racks for the*

Support and Protection of Cables, state how the cables are supported and protected *large cables in engine room, part clamped to stout metal supports & part with clips to ship structure*

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 *Yes*. 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 *In V.T. junction boxes of metal & in porcelain junction boxes in accommodation spaces.*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *W.T. tubes fitted through decks, & V.T. glands fitted in way of bulkheads.*

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 *Sheet lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Yes*

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 *on starboard side engine room floor, on 4KW, 225 Volt generator driven by hot bulb engine & controlled from main switch board.*

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 *armoured cables*

& lamps with gas tight covers protected by iron 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 *Yes*

how are the cables led *Yes*

where are the controlling switches situated *Yes*

Searchlight Lamps, No. of *2*, whether fixed or portable *fixed & portable*, are their fittings as per Rule *Yes*

Arc Lamps, other than searchlight lamps, No. of *Yes*, 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 *Yes*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule *Yes*

Lighting 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*

Yes</

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.

Osaka Iron Works Ltd

Electrical Engineers.

Date June 25th 1927.

COMPASSES.

Distance between electric generators or motors and standard compass about 80 feet

Distance between electric generators or motors and steering compass about 75 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 4.55 Ampères 3 feet from standard compass 6 feet from steering compass.

A cable carrying 2.2 Ampères 13 feet from standard compass 5 feet from steering compass.

A cable carrying .1 Ampères 2 feet from standard compass 2 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

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

compass, and degrees on OKAKA IRON WORKS, LTD., course in the case of the steering compass.

OKAKA IRON WORKS, LTD.,

[Signature]

Builder's Signature.

Date 25/6/27

Is this installation a duplicate of a previous case YES If so, state name of vessel "CHOAN MARU" RPN^o 5665.

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

This installation has been constructed & installed under special survey in accordance with the Rules & approved plans. The material & workmanship is good, it has been tested under full load conditions with satisfactory results.

This vessel is eligible in my opinion to have the notation of "Electric Light" & "Wireless" in Register Book.

Copies of main generator, ^{crank shaft.} certificate forwarded herewith Augsburg N^o 94,102,107
" " main switch board certificate " " Nagasaki N^o 17, dated 25/4/27

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

[Signature]
25/7/27

Total Capacity of Generators 240 Kilowatts

The amount of Fee ... £393⁰⁰ : When applied for, 18th June 1927
" " Travelling Expenses (if any) £ SEE HULL RPT. : When received, 8.10.27

A.D. Buchanan
Surveyor to Lloyd's Register of Shipping.

FRI. 29 JUL 1927

Committee's Minute

Assigned

[Signature]