

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report June 4 1927 When handed in at Local Office

Port of Yokohama.

No. in Survey held at

Uraga.

Date, First Survey

March 22

Last Survey

9<sup>th</sup> May 1927.

Reg. Book.

on the Steel Single Screw Steamer

Takao Maru

Tons

Gross 4281.76.

Net

Built at

Uraga

By whom built

Uraga Dock Co.

Yard No. 317.

When built

1927.

Owners

Osaka Kosen Kaisha

Port belonging to

Osaka.

Electric Light Installation fitted by

Uraga Dock Co.

Contract No. ✓

When fitted

1927.

System of Distribution

Two Wire Direct Current. ✓

Pressure of supply for Lighting

100

volts, Heating

volts, Power

100 volts.

Direct or Alternating Current, Lighting

Direct ✓

Power

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

Engine room, Starboard side, aft.

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

12" horizontally and 4 ft vert.

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

Engine room, aft bulkheads, 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

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

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

?

individual fuses to voltmeter, pilot or earth lamp

Yes.

connections of switches

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

Single pole overload Circuit breakers fuse on each pole of main switch,  
 fuse on each pole of each outgoing circuit. Equalizer switch, same handle as main.

Instruments on main switchboard 2 - 150 ammeters

2 - 150 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

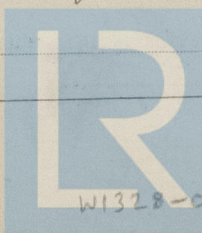
Pilot lamp &amp; Change over switch.

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 *4*.  
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2%*  
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 *Metal Clips & metal Corns in way of boilers*  
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 *Metal boxes, insulated, handle & in canite*  
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 *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*, are separate screens provided for the use of oil and electric side lights *✓*  
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 *✓*  
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 *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 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 *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 ... ..	2.	10.	110	91	650	Steam	✓	✓	
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR... ..	2	0.084 ✓	80	00102	100 Ea.	25'0	Rubber	Lead Covered.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM ... ..								
	BOILER ROOM ... ..								
									</



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.

*Shida*

Electrical Engineers.

Date

#### COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass 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.

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.

*Shida*

Builder's Signature.

Date

Is this installation a duplicate of a previous case If so, state name of vessel

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.**

*W.D.*  
19/7/27

Total Capacity of Generators 20. Kilowatts

The amount of Fee ... £ 300. : When applied for, 18. 5. 19. 27.  
Travelling Expenses (if any) £ : : When received, 30. 5. 19. 27.

*W.D. Batchelor.*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute 19 JUL 1927

Assigned

*Elec. light*

Im. 8. 22.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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