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Rpt. 13.

Received at London Office 19

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2964.

Port of **KOBE.** Date of First Survey **12th July** Date of Last Survey **27th July** No. of Visits **5**
 No. in Reg. Book on the Iron or Steel **SINGLE SCREW STEER MONOLULU MARU** Port belonging to **OSAKA.**
 Built at **INAKOSHIMA DOCKYARD** By whom **OSAKA IRON WKS** When built **1920.**
 Owners **OSAKA SHOSEN KAISHA.** Owners' Address **OSAKA.**
 Yard No. Electric Light Installation fitted by **INAKOSHIMA DOCKYARD.** When fitted **1920.**

DESCRIPTION OF DYNAMO, ENGINE, ETC. **An additional 20 KW set fitted 3.36**
One compound wound D.C. generator directly coupled to a single cylinder, automatic cut off, vertical, enclosed, non condensing engine.

Capacity of Dynamo **150 KW 150** Amperes at **100** Volts, whether continuous or alternating current **Continuous**
 Where is Dynamo fixed **E.R. Starbd side** Whether single or double wire system is used **Double.**
 Position of Main Switch Board **E.R. Starbd side** having switches to groups **A. B. C. D & E.** of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each **1 each for E-ROOM. Officers rooms. Ford cargo. After cargo. navigating lights. wireless telegraphy. rice pounder fan motors.**

If fuses are fitted on main switch board to the cables of main circuit **yes** and on each auxiliary switch board to the cables of auxiliary circuits **yes** and at each position where a cable is branched or reduced in size **yes** and to each lamp circuit **yes**
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits **yes**
 Are the fuses of non-oxidisable metal **yes** and constructed to fuse at an excess of **50** per cent over the normal current
 Are all fuses fitted in easily accessible positions **yes** Are the fuses of standard dimensions **yes** If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit **yes**
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases **yes**

Total number of lights provided for **216** arranged in the following groups :-

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	ENGR BOILER ROOM	52	166	16.6
B	CREW QUARTERS	103	22.3	22.3
C	WIRELESS TELEGRAPHY	1	35	35
D	FAN MOTORS	6	5	5
E	RICE POUNDER	1	8.7	8.7
	2 Mast head light with 2 lamps each of 32	2	2.12	2.12
	2 Side light with 2 lamps each of 32	2	2.12	2.12
	STERN LIGHT 1 LAMP 32 CP. REQUIRING CURRENT OF 1.06 AMP	1	32	1.06
	Cargo lights of 4 of 13-50 CP TUNGSTEN	4	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. **✓**

Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES.
 Main cable carrying **150** Amperes, comprised of **2X50** wires, each **#20** S.W.G. diameter, **0.1018** square inches total sectional area
 Branch cables carrying **16.6** Amperes, comprised of **7** wires, each **20** S.W.G. diameter, **0.0712** square inches total sectional area
 Branch cables carrying **22.3** Amperes, comprised of **35** wires, each **20** S.W.G. diameter, **0.356** square inches total sectional area
 Leads to lamps carrying **0.216** Amperes, comprised of **1** wires, each **18** S.W.G. diameter, **0.018** square inches total sectional area
 Cargo light cables carrying **40.5** Amperes, comprised of **2X13** wires, each **20** S.W.G. diameter, **2X0.0132** square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.
The cables are insulated by vulcanized rubber, rubber tape, and lead covered. They are protected against mechanical injury by steel wire armour covering
 Joints in cables, how made, insulated, and protected **Mechanical joints are made throughout + protected by porcelain + cast iron boxes.**

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances **yes** Are all joints in accessible positions, none being made in bunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage
 Are there any joints in or branches from the cable leading from dynamo to main switch board **no.**
 How are the cables led through the ship, and how protected **Led through W/C pipes where necessary and protected by their own armoured covering**



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Galvanized W.I. pipe*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *By their own armoured covering*

What special protection has been provided for the cables near boiler casings *As before*

What special protection has been provided for the cables in engine room *Galvanized W.I. PIPE when necessary*

How are cables carried through beams *wrapped with sheet lead.* through bulkheads, &c. *Water tight glands.*

How are cables carried through decks *through deck piping (galvanized W.I.)*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *By their own armoured covering*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no*

If so, how are the lamp fittings and cable terminals specially protected *✓*

Where are the main switches and fuses for these lights fitted *✓*

If in the spaces, how are they specially protected *✓*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *✓*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *✓*

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes*, fixed *Main switch board*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *✓*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *✓*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *✓*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

N. Mitsunori Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *95 feet*

Distance between dynamo or electric motors and steering compass *160 "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>350</i> Amperes	<i>16</i> feet from standard compass	feet from steering compass
A cable carrying	<i>0.216</i> Amperes	<i>7</i> feet from standard compass	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

The maximum deviation due to electric currents, etc., 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.

R. Kuyatouii Builder's Signature. Date

GENERAL REMARKS.

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

J. G. Gray
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. NOV. 26 1920*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 6. 18.—Transfer.

