

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1823

Port of Kobe Date of First Survey _____ Date of Last Survey 11th Jun No. of Visits 5
 No. in Reg. Book on the ~~Iron~~ Steel S. S. "Mikasan Maru" Port belonging to Kobe
 Built at Osaka Iron Works, Inosshima By whom Osaka Iron Works Ltd. of Inosshima When built 1916
 Owners The Mitsui Bussan Kaisha Owners' Address Kobe
 Yard No. 873 Electric Light Installation fitted by The Osaka Iron Works Ltd When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound six pole continuous current open type dynamo.

Vertical single cylinder Engine directly coupled to the dynamo.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on Starboard Side in Engine room Whether single or double wire system is used double wire system

Position of Main Switch Board On Starboard Side in Engine room having switches to groups _____ of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in crew space in fore-castle with 7 switches, One in chart room on upper bridge with 8 switches, one in Saloon pantry on bridge deck with 4 switches, one in mess room on bridge deck with 6 switches, one on starboard side of engine casing in bridge space with 5 switches, and one on inside of poop front bulkhead with one switch

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-oxidizable metal yes and constructed to fuse at an excess of about 30 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 no

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for Signal, living quarters & arranged in the following groups:—

A 57 lights each of 16 candle power requiring a total current of 32.00 Amperes

B 13 lights each of 10 candle power requiring a total current of 4.55 Amperes

C 7 lights each of 5 candle power requiring a total current of 1.23 Amperes

D _____ lights each of _____ candle power requiring a total current of _____ Amperes

E _____ lights each of _____ candle power requiring a total current of _____ Amperes

2 Mast head light with one lamps each of 32 candle power requiring a total current of 2.24 Amperes

2 Side light with one lamps each of 32 candle power requiring a total current of 2.24 Amperes

10 Cargo lights of 4 lamps each, each lamp of 16 candle power, whether incandescent or arc lights Incandescent & arc light

If arc lights, what protection is provided against fire, sparks, &c. They are protected by incombustible material.

Where are the switches controlling the masthead and side lights placed Chart room & living quarters

DESCRIPTION OF CABLES.

Main cable carrying 75.0 Amperes, comprised of 80 wires, each 20 S.W.G. diameter, 0.01432 square inches total sectional area

Branch cables carrying 32.0 Amperes, comprised of 24 wires, each 20 S.W.G. diameter, 0.244376 square inches total sectional area

Branch cables carrying 10.6 Amperes, comprised of 8 wires, each 20 S.W.G. diameter, 0.081432 square inches total sectional area

Leads to lamps carrying 10.0 Amperes, comprised of 8 wires, each 20 S.W.G. diameter, 0.081432 square inches total sectional area

Cargo light cables carrying 22.4 Amperes, comprised of 17 wires, each 20 S.W.G. diameter, 0.173048 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated by using lead cables

Joints in cables, how made, insulated, and protected

Cables are jointed in joint boxes made of porcelain and protected by wooden boxes where necessary.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage no

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 by brass band fixed on wood in board and protected by wooden box or iron pipe where necessary and elsewhere by using lead cable.

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 by iron pipe

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat by iron pipe

What special protection has been provided for the cables near boiler casings by galvanized armouring wire

What special protection has been provided for the cables in engine room by galvanized armouring wire or iron pipe

How are cables carried through beams holes bushed with lead sheet through bulkheads, &c. through watertight metal flanges

How are cables carried through decks through brass or iron sockets

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 galvanized iron pipe

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 on starboard side bunker wall in engine room

If in the spaces, how are they specially protected by higher insulating materials

Are any switches or fuses fitted in bunkers

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 ✓, and with an amperemeter ✓, fixed ✓

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.

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 115 ft

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2.0</u>	Amperes	<u>12</u>	feet from standard compass	feet from steering compass
A cable carrying		Amperes		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.

GENERAL REMARKS.

The installation has been fitted in accordance with the Rules & worked satisfactorily in trial

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

Elec light

Arthur L. Jones

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUE AUG. 8—1916