

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1779

Port of Kobe Date of First Survey Feb 11th Date of Last Survey Mar 16th No. of Visits 6
 No. in Reg. Book on the ~~Iron~~ Steel S. S. "Kotsu Maru" Port belonging to Nishinomiya
 Built at Osaka By whom The Osaka Iron Works Ltd When built 1916
 Owners Hiroumi Shoji Kabushiki Kaisha Owners' Address Nishinomiya
 Yard No. 865 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 directly coupled to the dynamo.
 Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed on starboard side in steering engine room Whether single or double wire system is used double wire system.
 Position of Main Switch Board on starboard side in steering 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 3 switches, one in chart room on upper bridge with 4 switches, one in saloon pantry on bridge deck with 5 switches, one in mess room on bridge deck with 4 switches, one in starboard side of engine casing in bridge space with 6 switches, and one on inside of prop. 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 &c arranged in the following groups :-
 A 6 lights each of 16 candle power requiring a total current of 32.40 Amperes
 B 4 lights each of 10 candle power requiring a total current of 1.32 Amperes
 C 2 lights each of 5 candle power requiring a total current of 0.22 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 2.12 Amperes
2 Side light with one lamps each of 32 candle power requiring a total current of 2.12 Amperes
4 Cargo lights of 5 lamps each, each lamp of 16 candle power, whether incandescent or arc lights
 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 48.89 Amperes, comprised of 60 wires, each 20 S.W.G. diameter, 0.061074 square inches total sectional area
 Branch cables carrying 22.69 Amperes, comprised of 7 wires, each 16 S.W.G. diameter 0.022519 square inches total sectional area
 Branch cables carrying 10.6 Amperes, comprised of 7 wires, each 18 S.W.G. diameter 0.026173 square inches total sectional area
 Leads to lamps carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ square inches total sectional area
 Cargo light cables carrying 10.6 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 0.026672 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated by using lead cable
 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 Accessible
 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 wooden board and protected by wooden iron pipe where necessary and elsewhere by using lead cable.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes they are always accessible.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *By iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *By wooden box or iron box*

What special protection has been provided for the cables near boiler casings *By iron pipe or by galvanized armoured wire*

What special protection has been provided for the cables in engine room *By iron pipe or by armoured wire.*

How are cables carried through beams *Holes bushed with lead sheet* through bulkheads, &c. *Through water tight metal flanges*

How are cables carried through decks *Through brass or iron sockets.*

Are any cables run through coal bunkers *No* 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 pipes.*

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

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 *500* 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.

G. Yumuda

Electrical Engineers

Date *5th Apr 1916*

COMPASSES.

Distance between dynamo or electric motors and standard compass *110 ft*

Distance between dynamo or electric motors and steering compass *0 ft*

The nearest cables to the compasses are as follows:—

A cable carrying <i>2.7</i> Amperes	<i>10</i> 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 *Yes.*

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.

T. Yumada

Builder's Signature.

Date *5/4/16*

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for

THE RECORD Elec. light.

J.W.D. 23/5/16

Arthur H. Jones

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

Committee's Minute TUE. MAY. 23. 1916

Im. 1113.—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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