

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1758

Port of Kobe Date of First Survey 28.12.15 Date of Last Survey 9 Feb No. of Visits 5  
 No. in Reg. Book New on the Iron or Steel S.S. "Yuki Maru" Port belonging to Nabu  
 Built at Osaka Iron Works, Inuoshima By whom The Osaka Iron Works Ltd When built 1916-2  
 Owners Satsuuma Kisen Kaisha Owners' Address Nishinomiza  
 Yard No. 862 Electric Light Installation fitted by The Osaka Iron Works Ltd When fitted 1916-2

## 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 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 forecabin 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 4 switches one in engine room with 6 switches and one on inside of poop front bulkhead with 3 switches.  
 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 etc arranged in the following groups:—  
 A 54 lights each of 16 candle power requiring a total current of 30.00 Amperes  
 B 5 lights each of 10 candle power requiring a total current of 1.75 Amperes  
 C 2 lights each of 6 candle power requiring a total current of 0.43 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 2 lamps each of 22 candle power requiring a total current of 2.34 Amperes  
2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.34 Amperes

2 Cargo lights and 6 Cargo lights of 5 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 iron casing and glass globe against fire, spark-

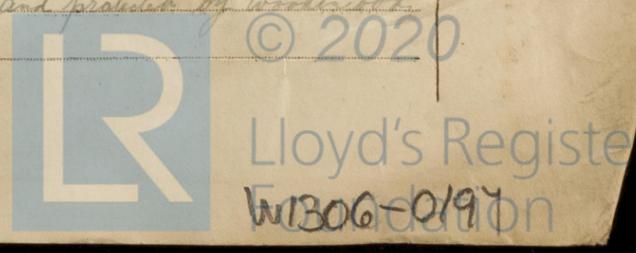
Where are the switches controlling the masthead and side lights placed in chart room on upper bridge deck.

## DESCRIPTION OF CABLES.

Main cable carrying 60 Amperes, comprised of 80 wires, each 20 S.W.G. diameter, 0.08144 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, 0.022519 square inches total sectional area  
 Branch cables carrying 26 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, 0.007127 square inches total sectional area  
 Leads to lamps carrying 67 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, 0.007126 square inches total sectional area  
 Cargo light cables carrying 168 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 0.12662 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated by using lead cables  
 Joints in cables, how made, insulated, and protected  
Cable are jointed in joint box 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 binnacle fixed on wooden board and protected by wooden box or iron pipe where necessary and elsewhere by using lead cables.



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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 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 pipes*

What special protection has been provided for the cables near boiler casings *By iron pipes or galvanized armoring wire*

What special protection has been provided for the cables in engine room *By iron pipes or galvanized armoring wire*

How are cables carried through beams *holes bushed with lead sheet* through bulkheads, &c. *through water-tight 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 pipes or by wooden box*

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 highly insulating material which is called "marble"*

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 and with an amperemeter, 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.

*G. Yumuda*

Electrical Engineers

Date *23<sup>rd</sup> Feb. 1916*

COMPASSES.

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

Distance between dynamo or electric motors and steering compass *2 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *2.5* Amperes *10* 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.

OSAKA IRON WORKS, LTD.

*T. Yamaguchi*

Builder's Signature.

Date

GENERAL REMARKS.

MANAGING DIRECTOR

*The installation has been well fitted & was found to work satisfactorily*

*It is submitted that this vessel is eligible for the second Etec. light.*

*J.W.D. 25/4/16*

*J.P.R.*

*Arthur Jones*

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

Committee's Minute *WED. 26 APR. 1916*

Im. 8.12.—Transfer.

WRITTEN.



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