

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 on the Iron or Steel S.S. "Yuki Maru" Port belonging to Nabu
New 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 0.42 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 Mast light and 6 Cargo lights of 5 lamps each, each lamp of 16 candle power, whether incandescent or arc lights Incandescent 4 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, 0.007121 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, 0.02662 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 bare lead 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 pipe

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

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

What special protection has been provided for the cables in engine room By iron pipe or galvanized armoured 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 lockets

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 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 23rd 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 <u>2.5</u> Amperes	<u>10</u> feet from standard compass	feet from steering compass
A cable carrying <u>Amperes</u>	feet from standard compass	feet from steering compass
A cable carrying <u>Amperes</u>	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 ELEC. light.

J.W.D.
25/4/16

J.P.R.

Arthur L. Jones

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

Committee's Minute

WED 26 APR 1916