

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2586.

of *Kobe.* Date of First Survey *May 16th* Date of Last Survey *May 26th* No. of Visits *Five.*
 on the ~~Iron or Steel~~ *Single Screw Steamer "Yugao Maru"* Port belonging to *Kobe.*
 Built at *O. Harima* By whom *Harima Dockyard Coy.* When built *1919.*
Teikoku Steamship Company. Owners' Address
 No. *15.* Electric Light Installation fitted by *The Harima Dockyard Coy.* When fitted *1919.*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct current open type Compound dynamo directly coupled with special high speed single engine.

Capacity of Dynamo *118* Amperes at *110* Volts, whether continuous or alternating current *Continuous*
 Is Dynamo fixed *Engine room.* Whether single or double wire system is used *Double.*

Position of Main Switch Board *Alongside dynamo.* having switches to groups *A B C D* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *Five switches on main board*

Signal & Saloon, Engineers & Crew Space, Engine boiler room, carb lights & wireless room

Are there fuses 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*

Is the wiring 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 *100* 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 *Yes.*

Are there 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.*

Number of lights provided for *Four groups.* arranged in the following groups:—

<i>159.</i> lights each of	<i>16.</i> candle power requiring a total current of	<i>28.9.</i> Amperes
<i>40</i> lights each of	<i>16</i> candle power requiring a total current of	<i>20.34</i> Amperes
<i>5</i> lights each of	<i>32</i> candle power requiring a total current of	<i>5.08</i> Amperes
<i>2</i> lights each of	<i>1000</i> candle power requiring a total current of	<i>9.1</i> Amperes

lights each of	candle power requiring a total current of	Amperes
Mast head light with lamps each of	candle power requiring a total current of	Amperes
Side light with lamps each of	candle power requiring a total current of	Amperes
Cargo lights of	candle power, whether incandescent or arc lights	

lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed *Chart room.*

DESCRIPTION OF CABLES.

Cable carrying *101.42* Amperes, comprised of *39* wires, each *16* S.W.G. diameter, *0.1188* square inches total sectional area

Cables carrying *17.65* Amperes, comprised of *7* wires, each *16* S.W.G. diameter, *0.0226* square inches total sectional area

Cables carrying *9.82* Amperes, comprised of *11* wires, each *20* S.W.G. diameter, *0.110* square inches total sectional area

Cables to lamps carrying *6.55* Amperes, comprised of *11* wires, each *20* S.W.G. diameter, *0.110* square inches total sectional area

Light cables carrying *29.4* Amperes, comprised of *7* wires, each *16* S.W.G. diameter, *0.0226* square inches total sectional area

Wires for wireless *38.0* *16* S.W.G. diameter, *0.0354* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Is the wire used in hold & bunker. *Insulated wire through steel tubes in engine & boiler rooms.*

Are 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 bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *Yes*

Are there any joints in or branches from the cable leading from dynamo to main switch board *No*

Are the cables led through the ship, and how protected *Armoured wire.*

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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 *Lead covered wire where exposed - insulated wire is used.*

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

What special protection has been provided for the cables near boiler casings *led through steel tubes*

What special protection has been provided for the cables in engine room *ditto.*

How are cables carried through beams *through bulkheads, &c. gland is used.*

How are cables carried through decks

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 *Armoured wire also wood casing over same.*

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 *✓*, 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 _____ 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.

Skanga

Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 128 feet.*

Distance between dynamo or electric motors and steering compass *about 192 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>17.65</i>	<i>about 30</i>	<i>about 180</i>	
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.

Builder's Signature. Date

GENERAL REMARKS.

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

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

Ref 14/10/19

R. P. Bletcher.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 17 OCT. 1919



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