

1919

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2416

Port of Kobe Date of First Survey 27 Mar Date of Last Survey 10 May 1919 No. of Visits 7
 Built at Osaka By whom The Osaka Iron Works, Ltd. When built 1919
 Owners' Address Kobe
 Electric Light Installation fitted by The Osaka Iron Works, Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single Cylinder Vertical, enclosed Self lubricating Engine.
D.C. Compound Wound Dynamo.

Capacity of Dynamo 10 H.P. 100 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed at starboard side on platform Whether single or double wire system is used double wire system
 Position of Main Switch Board At the dynamo having switches to groups for main circuit, lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each one for engine room, two for cargo, one for navigation
one for officers' room, one for wireless circuit.

Fuses are fitted on main switch board to the cables of main circuit. Fitted and on each auxiliary switch board to the cables of auxiliary circuits. Fitted and at each position where a cable is branched or reduced in size branched & reduced and to each lamp circuit branched
 Where is vessel wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits. Fitted
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 3 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 yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 114 and two arc lamps arranged in the following groups:—

Engine & boiler room lights each of <u>16 c.p.</u>	candle power requiring a total current of <u>14.84</u>	Amperes
After bridge <u>16</u> lights each of <u>16 c.p.</u>	candle power requiring a total current of <u>8.48</u>	Amperes
Fore bridge <u>25</u> lights each of <u>16 c.p.</u>	candle power requiring a total current of <u>13.25</u>	Amperes
Castles under <u>10</u> lights each of <u>16 c.p.</u>	candle power requiring a total current of <u>5.30</u>	Amperes
Navigation light <u>7</u> lights each of <u>16 c.p.</u>	candle power requiring a total current of <u>3.71</u>	Amperes
Mast head light with <u>2</u> lamps each of <u>32 c.p.</u>	candle power requiring a total current of <u>2.12</u>	Amperes
Side light with <u>2</u> lamps each of <u>32 c.p.</u>	candle power requiring a total current of <u>2.12</u>	Amperes
Cargo lights of <u>6-4</u> clustered <u>16</u> candle power, whether incandescent or arc lights		

Are lights, what protection is provided against fire, sparks, &c. 2 arc lamps used and protection in
Complete they requiring a total of 25.54 Amperes.
 Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES.

Main cable carrying <u>100</u> Amperes, comprised of <u>lead</u> wires, each <u>1/80</u> S.W.G. diameter, <u>1.44674</u> square inches total sectional area
Each cable carrying <u>14.84</u> Amperes, comprised of <u>armoured</u> wires, each <u>1/13</u> S.W.G. diameter, <u>1.01985</u> square inches total sectional area
Each cable carrying <u>5.32</u> Amperes, comprised of <u>lead</u> wires, each <u>1/11</u> S.W.G. diameter, <u>1.02342</u> square inches total sectional area
Wires to lamps carrying <u>5.3</u> Amperes, comprised of <u>lead</u> wires, each <u>1/11</u> S.W.G. diameter, <u>1.02342</u> square inches total sectional area
Light cables carrying <u>16.76</u> Amperes, comprised of <u>armoured</u> wires, each <u>1/15</u> S.W.G. diameter, <u>1.02712</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine & boiler space & cargo hatches armoured wire or through galvanized sheet
pipe, officers room and crews quarters lead covered wire through wooden
covers.
 How are the cables, how made, insulated, and protected porcelain Box or cast iron box are used

Are all 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
 How are the cables led through the ship, and how protected no



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *by galvanizing*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *by the use of removed wire*

What special protection has been provided for the cables near boiler casings *ditto*

What special protection has been provided for the cables in engine room *By the use of armoured wire or galvanized wire pipe as covers*

How are cables carried through beams *Lead sheet to covered* through bulkheads, &c. *By gland nut with india rubber packing complete.*

How are cables carried through decks *Through a galvanized wire pipe with flanges fixed to deck.*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *by the use of armoured wire or wire through galvanized wire pipe.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *nothing*

If so, how are the lamp fittings and cable terminals specially protected *no*

Where are the main switches and fuses for these lights fitted *no*

If in the spaces, how are they specially protected *no*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *no*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *no*

How are the returns from the lamps connected to the hull *no*

Are all the joints with the hull in accessible positions *no*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes*, fixed at *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 *yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *no*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *By the use of Deane light.*

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. Hinton



Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <i>2, 1, 2</i>	<i>7'</i>		
A cable carrying <i>1, 5, 3</i>	<i>9'</i>		
A cable carrying <i>2, 1, 2</i>	<i>6'</i>		

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.*

G. Hinton

Builder's Signature.

Date

GENERAL REMARKS.

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

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

See Light Roll 8.7.19

A. L. Jones

Y. Jo. assist.

Surveyor to Lloyd's Register of Shipping.