

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4972

Port of Hong Kong Date of First Survey Feb. 9th. Date of Last Survey May 19th. No. of Visits 4
 No. in 03118 on the Iron or Steel Twin Screw Vessel "LIMBURG" Port belonging to Batavia
 Reg. Book 03118 Built at Amsterdam By whom Nederl. Scheps. Maats When built 1909
 Owner Nederl. Indische Tankstoomboot Maats. (Bataafsche Petroleum Maats Mgrs.) Owners' Address _____
 Card No. _____ Electric Light Installation fitted by Hong Kong & Whampoa Dock Co. Ld. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 8 K.W. Multipolar Dynamo Direct Coupled to a Two Cylinder Petrol Engine.

Capacity of Dynamo 150 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room, Port Side Whether single or double wire system is used Double
 Position of Main Switch Board Engine Room, Port Side having switches to groups 4 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Chart Room 9 switches.

Are 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
 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
 Are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit _____
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 112 arranged in the following groups:—

<u>Eng. Room</u>	<u>24</u> lights each of	<u>16</u> candle power	requiring a total current of	<u>13.4</u>	Amperes
<u>Forward</u>	<u>8</u> lights each of	<u>16</u> candle power	requiring a total current of	<u>4.4</u>	Amperes
<u>Bridge Dk</u>	<u>20</u> lights each of	<u>16</u> candle power	requiring a total current of	<u>11.2</u>	Amperes
<u>Engineers & Officers</u>	<u>44</u> lights each of	<u>16</u> candle power	requiring a total current of	<u>22.6</u>	Amperes
<u>2 Mast head light with</u>	<u>1</u> lamps each of	<u>32</u> candle power	requiring a total current of	<u>1</u>	Amperes
<u>2 Side light with</u>	<u>1</u> lamps each of	<u>32</u> candle power	requiring a total current of	<u>1</u>	Amperes
<u>96 Cargo lights of</u>		<u>96</u> candle power, whether incandescent or arc lights			<u>Incandescent</u>

Are arc 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.

Each cable carrying 184 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .1928 square inches total sectional area
 Each cables carrying 22.3 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .02299 square inches total sectional area
 Each cables carrying 12.5 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .01254 square inches total sectional area
 Cables to lamps carrying 3.21 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area
 Light cables carrying 3.21 Amperes, comprised of 135 wires, each 40 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are insulated with pure para rubber, two coats vulcanising rubber. I.R. taped, the whole vulcanised, lead covered, braided and armoured with galvanised iron wire
 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 soldered joints.
 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 On deck, through galvanised iron pipe.

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 **-**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **Lead covered and galvanised iron armoured.**

What special protection has been provided for the cables near boiler casings **Lead covered & galvanised iron armoured.**

What special protection has been provided for the cables in engine room **Lead covered and galvanised iron armoured.**

How are cables carried through beams **In lead bushes** through bulkheads, &c. **Brass stuffing boxes**

How are cables carried through decks **In galvanised iron deck tubes.**

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

If so, how are they protected **-**

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 **No**

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 **Yes**, and with an amperemeter **Yes**, fixed **On 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 **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 **-**

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.

James Graham

Electrical Engineers

Date **May 22nd, 1920**

COMPASSES.

Distance between dynamo or electric motors and standard compass **125 feet**

Distance between dynamo or electric motors and steering compass **115 feet**

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes	5'-6" feet from standard compass	5'-6" 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 **Nil** degrees on _____ course in the case of the standard compass and **Nil** degrees on _____ course in the case of the steering compass.

Builder's Signature.

Date **May 22nd, 1920**

GENERAL REMARKS.

Installation tested on **May 19th, 1920** with satisfactory results.

50,118—Transfer.

Elec Light 5.20 *Roll 27/7/20*

J. Morrison
Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI JUL 30 1920**

TUE SEP. 21 1920

FRI. 4 MAR. 1921

FRI. 10 SEP. 1921



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THE SURVEYORS ARE REQUESTED TO WRITE ACROSS THIS MARGIN.