

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 34548

Port of Glasgow Date of First Survey 3<sup>rd</sup> July 1917 Date of Last Survey 11<sup>th</sup> March 1918 No. of Visits 24  
 No. in Reg. Book on the Iron or Steel S.S. "Rubiera" Port belonging to London  
 Built at Port Glasgow By whom Rumell & Co When built 1918  
 Owners Blue Star Line Ltd. Owners' Address \_\_\_\_\_  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by Campbell & Isherwood When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-12½ H. W. Combined Engines and Dynamos.  
Makers Campbell & Isherwood Ltd., Liverpool.  
 Capacity of Dynamo 2-125 Amperes at 100 V Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed C. R. Whether single or double wire system is used single  
 Position of Main Switch Board C. R. having switches to groups 6 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each C. R. 6 Chart Room  
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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 yes 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 142 arranged in the following groups:—

A	<u>35</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19</u>	Amperes
B	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11.5</u>	Amperes
C	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14</u>	Amperes
D	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>2</u>	Mast head light with	<u>2</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.5</u> Amperes
<u>2</u>	Side light with	<u>2</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.5</u> Amperes
<u>4</u>	Cargo lights of	<u>each 5-16</u>		candle power, whether incandescent or arc lights	<u>Incandescent.</u>	

If 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.

Main cable carrying 125 Amperes, comprised of 34 wires, each 16 S.W.G. diameter, .114 square inches total sectional area  
 Branch cables carrying 19 Amperes, comprised of 4 wires, each 16 S.W.G. diameter, .02224 square inches total sectional area  
 Branch cables carrying 19 Amperes, comprised of 4 wires, each 16 S.W.G. diameter, .02224 square inches total sectional area  
 Leads to lamps carrying 11 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Cargo light cables carrying 16 Amperes, comprised of 4 wires, each 17 S.W.G. diameter, .0140 square inches total sectional area

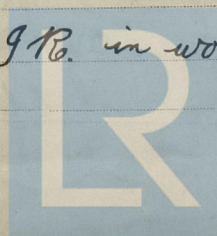
## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine Room & Stokeshold L.C. A & B. Cables.  
Mains Ford & Apt. V.I.R. in wood bearings & galv. tubes.  
Cables L.C. Wires.  
 Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances \_\_\_\_\_ 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 \_\_\_\_\_

Are there any joints in or branches from the cable leading from dynamo to main switch board \_\_\_\_\_

How are the cables led through the ship, and how protected Through Stoles V.I.R. in wood bearings





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 26 cables

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat 26 + 26 A + B

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

What special protection has been provided for the cables in engine room ✓

How are cables carried through beams Fibre Terrals through bulkheads, &c. Brass glands

How are cables carried through decks Deck Tubes 18" long

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 Galv. Iron Tubes in bunkers Cargo spaces, wood bearings

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected Cast Iron Boxes

Where are the main switches and fuses for these lights fitted Engine Room.

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 Bosh. How fixed Portable connections on Deck.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Direct to Dynamo.

How are the returns from the lamps connected to the hull Brass Screws & Washers.

Are all the joints with the hull in accessible positions Yes

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed 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.

CAMPBELL & ISHERWOOD, LTD.

Electrical Engineers

Date

19/3/18

COMPASSES.

Distance between dynamo or electric motors and standard compass 130 feet

Distance between dynamo or electric motors and steering compass 130 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>11</u>	Amperes	<u>6</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>14</u>	Amperes	<u>14</u>	feet from standard compass	<u>14</u>	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 Nil course in the case of the standard compass and Nil degrees on Nil course in the case of the steering compass.

Builder's Signature.

Date

23rd March 1918

GENERAL REMARKS.

This installation has been well fitted on board and when examined under full working conditions was found satisfactory.

THE RECORD. Elec light.

A.M. McLeod

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW.

26 MAR 1918

Elec. Light.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.