

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 34259

Port of Glasgow Date of First Survey 24-2-17 Date of Last Survey 6<sup>th</sup> Nov 17 No. of Visits 28  
 No. in Reg. Book 1404 on the ~~Iron or~~ Steel S/S "Montilla" Port belonging to London  
 Built at Glasgow By whom Russell & Co. When built 1917  
 Owners Blue Star Line Ltd. Owners' Address Messrs. Campbell & Isherwood When fitted 1917  
 Yard No. 693 Electric Light Installation fitted by Messrs. Campbell & Isherwood

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-12 1/2 H.P. Combined Engines and Dynamos  
Messrs. Campbell & Isherwood Ltd. Liverpool.  
 Capacity of Dynamo 175 Amperes at 100 V. Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed E. Room Whether single or double wire system is used Single  
 Position of Main Switch Board E. Room having switches to groups 6 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each E. Room 6. Chart Room.  
8.

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

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

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, .117 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 14 Amperes, comprised of 7 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 7 wires, each 14 S.W.G. diameter, .0140 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine Room & Storehold L. C. A & B cables  
Mains Ford & aft V.I.R. in Wood Casings & 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 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

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 Holes V.I.R. in wood Casings.



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

L.C. cables.

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

L.C. & L.C. & 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 Ferrule.

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, Large Spaces, Wood Casings.

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

Both.

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

Switchboard.

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

7/11/17.

COMPASSES.

Distance between dynamo or electric motors and standard compass

120 ft.

Distance between dynamo or electric motors and steering compass

120 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
11	6	6	6
14	14	14	14

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

22<sup>nd</sup> Nov 1917

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

AWD

28/11/17.

A. McKean & Wm. H. Copman.

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

Committee's Minute

GLASGOW

27 NOV. 1917

Elec. Light



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