

REPORT ON ELECTRIC LIGHTING INSTALLATION. No 33899

Port of Glasgow Date of First Survey 25.2.14 Date of Last Survey 21.4.14 No. of Visits 12

No. in Reg. Book on the Iron or Steel Steam Lightship Dalecarlia No 19 Port belonging to By whom

Built at Parslow By whom Row McLauchlan & Co When built 1914

Owners Canadian Co. of Marine Steamers Owners' Address Gas: Kelpatrick & Co. When fitted 1914

Yard No. 296 Electric Light Installation fitted by Gas: Kelpatrick & Co. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

De Laval Turbine Driven Dynamo 15 H.P.

Capacity of Dynamo 10 K.W. Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double

Position of Main Switch Board Beside Dynamo having switches to groups 4 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Distribution & Section Fuse Boxes placed for 4 Circuits viz: Navigation, Fore Accommodation, After Accommodation, Engine & Boiler rooms.

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 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 yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 154 arranged in the following groups:—

A	<u>Navigation 6</u> lights each of <u>32</u> candle power requiring a total current of <u>4.75</u> Amperes
B	<u>Accommodation 9</u> lights each of <u>16</u> candle power requiring a total current of <u>47.0</u> Amperes
C	<u>Night Lights 9</u> lights each of <u>16</u> candle power requiring a total current of <u>4.5</u> Amperes
D	<u>Eng. Room 44</u> lights each of <u>16</u> candle power requiring a total current of <u>23.0</u> Amperes
E	lights each of candle power requiring a total current of Amperes
	<u>Included above under Navigation Mast head light with lamps each of candle power requiring a total current of Amperes</u>
	<u>Side light with lamps each of candle power requiring a total current of Amperes</u>
	<u>2</u> Cargo lights of <u>100</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 In Chart Room

DESCRIPTION OF CABLES.

Main cable carrying	<u>90</u> Amperes, comprised of <u>19</u> wires, each <u>14</u> S.W.G. diameter, <u>.091</u> square inches total sectional area
Branch cables carrying	<u>72</u> Amperes, comprised of <u>7</u> wires, each <u>16</u> S.W.G. diameter, <u>.0222</u> square inches total sectional area
Branch cables carrying	<u>12</u> Amperes, comprised of <u>7</u> wires, each <u>18</u> S.W.G. diameter, <u>.0125</u> square inches total sectional area
Leads to lamps carrying	<u>1 1/2</u> Amperes, comprised of <u>1</u> wires, each <u>18</u> S.W.G. diameter, <u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>3</u> Amperes, comprised of <u>110</u> wires, each <u>38</u> S.W.G. diameter, <u>.003</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

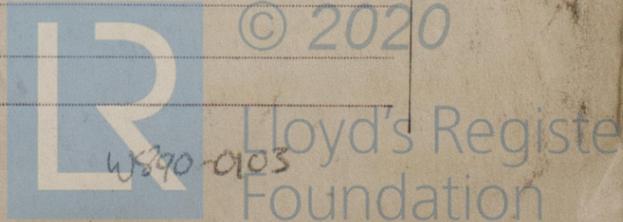
Armoured. Cables in Engine & Boiler Rooms & all main, accommodation wiring L.P. on surface.

Joints in cables, how made, insulated, and protected none

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 no

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 See above.



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 Covering & Armouring

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

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 ditto

How are cables carried through beams Lead Bushes through bulkheads, &c. W.T. Glands

How are cables carried through decks M.S. Deck Tubes 18" High

Are any cables run through coal bunkers Yes or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage —

If so, how are they protected Armoured. Clipped hard against deck.

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 Bunker Fittings

Where are the main switches and fuses for these lights fitted In Stowage

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 W.T. G.M. Smiths Connector Box

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 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.

Geo. Kilpatrick & Son, Electrical Engineers Date 28th April 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 32' 0"

Distance between dynamo or electric motors and steering compass 42' 0"

The nearest cables to the compasses are as follows:— Note, there is electric light fitted into Compasses

A cable carrying <u>6</u> Amperes <u>4</u> feet from standard compass <u>3</u> feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass <u>—</u> feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass <u>—</u> 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 — degrees on — course in the case of the steering compass.

BOW, M'LACHLAN & CO., LTD.

M. Lachlan DIRECTOR.

Builder's Signature. Date

GENERAL REMARKS.

Fluor Installation has been fitted on board under special survey & tested under full working conditions & found satisfactory

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

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

Committee's Minute GLASGOW 12 MAY 1914
Elec. light



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