

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 114148

Port of *Glasgow*. Date of First Survey *Pembroke Castle*. Date of Last Survey *London*. No. of Visits
 No. in Reg. Book *1016*. on the ~~Iron~~ or Steel *Barrow*. Port belonging to *Barrow S.B. Coy*. When built *1883*.
 Owners *Donald Currie & Co*. Owners Address *374 Fenchurch St London*.
 Yard No. Electric Light Installation fitted by When fitted

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Consisting of two Siemens H.B. $1\frac{1}{2}$ 20½ Dynamos each coupled direct to a
 Brown & Lindley vertical single cylinder engine running at 260 Revs.

Capacity of Dynamo *110* Amperes at *105* Volts, whether continuous or alternating current. *Continuous*

Where is Dynamo fixed.

In Main Engine Room

Position of Main Switch Board

ditto

having switches to groups

A to F

of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

If cut outs are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch boards 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits

Are the cut outs of non-oxidizable metal *Yes* and constructed to fuse at an excess of *100* per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *368* arranged in the following groups:—

A about <i>98</i>	lights each of <i>not more than 16</i>	candle power requiring a total current of <i>60</i>	Amperes
B <i>80</i>	lights each of <i>"</i>	candle power requiring a total current of <i>48</i>	Amperes
C <i>67</i>	lights each of <i>"</i>	candle power requiring a total current of <i>40</i>	Amperes
D <i>66</i>	lights each of <i>"</i>	candle power requiring a total current of <i>40</i>	Amperes
E <i>36</i>	lights each of <i>"</i>	candle power requiring a total current of <i>22</i>	Amperes
F <i>1</i>	Mast head light with <i>1</i> lamp each of <i>1-60 + 2-32</i>	candle power requiring a total current of <i>1.3</i>	Amperes
<i>2</i>	Side lights with <i>1</i> lamp each of <i>60 + 32</i>	candle power requiring a total current of <i>4</i>	Amperes
<i>6</i>	Cargo lights of <i>96</i>	candle power, whether incandescent or arc lights <i>Incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed. *at the Forecastle Head*

DESCRIPTION OF CABLES.

Main cable carrying <i>110</i> Amperes, comprised of <i>37</i> wires, each <i>16</i> L.S.G. diameter,	square inches total sectional area
Branch cables carrying <i>22 to 60</i> Amperes, comprised of <i>7 to 19</i> wires, each <i>13.12 to 16</i> L.S.G. diameter,	square inches total sectional area
Branch cables carrying <i>"</i> Amperes, comprised of <i>"</i> wires, each <i>"</i> L.S.G. diameter,	square inches total sectional area
Leads to lamps carrying <i>6</i> Amperes, comprised of <i>1</i> wires, each <i>18</i> L.S.G. diameter,	square inches total sectional area
Cargo light cables carrying <i>4</i> Amperes, comprised of <i>7</i> wires, each <i>20</i> L.S.G. diameter,	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure and vulcanized rubber, taped with J.R. saturated tape, braided and ozokerited, then laid in well seasoned pine and oak casing and iron pipes

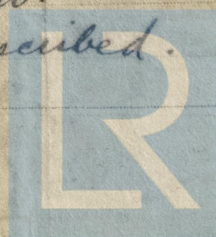
Joints in cables, how made, insulated, and protected. *Generally jointless system.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *Yes, where joints necessary* 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 *Not as far as we can tell*

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.

As above described.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

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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

None in such position

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

Iron pipes

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

In hard wood bunks

through bulkheads, &c.

In special glands below water line

How are cables carried through decks

In special Deck sockets

Are any cables run through coal bunkers

No

or cargo spaces

No

or spaces which may be used for carrying cargo, stores, or baggage

Not as far as we know

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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

No

Cargo light cables, whether portable or permanently fixed

Portable

How fixed

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

Rygan metal sleeve bolted to Beam

How are the returns from the lamps connected to the hull

By 1/8" Whitworth Brass screws

Are all the joints with the hull in accessible positions

Yes, whenever practicable

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 installation is

supplied with 2 voltmeters and

2

amperemeters fixed on switchboard

The copper used is guaranteed to have a conductivity of

98

per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than

600

megohms per

statute mile after 24 hours' immersion in seawater.

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.

FOR SIEMENS BROTHERS & CO. LIMITED.

Electrical Engineers

Date

Dec 24th '95

COMPASSES.

Distance between dynamo or electric motor and standard compass

over 100 feet

Distance between dynamo or electric motors and steering compass

ditto

The nearest cables to the compasses are as follows:—

A cable carrying

36

Amperes

about 25

feet from standard compass

25

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

No

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.

AND ENGINEERING CO., LIMITED

Builder's Signature

Date

M. B. L. L. L.

GENERAL REMARKS.

The compasses have been adjusted with the installation off and at work with full power in my presence with results as stated above.

John Sanderson

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

Committee's Minute

This installation appears to be in accordance with the Rules.

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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.