

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28638

Port of Hull Date of First Survey 28.5.15 Date of Last Survey 10.6.15 No. of Visits 8
 No. in Reg. Book on the Iron or Steel M. J. Asher Port belonging to 10.15
 Built at Hull By whom Messrs. G. B. & Co. Ltd. When built 1915
 Owners G. M. Owners' Address
 Yard No. 615 Electric Light Installation fitted by Falson, Bros & Co. When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Totally enclosed engines coupled direct to
2 Compound wound dynamos
 Capacity of ^{each} Dynamo 250 Amperes at 100 Volts, whether continuous or alternating current 500
 Where is Dynamo fixed On Main Platform Whether single or double wire system is used Double
 Position of Main Switch Board Aft Bulkhead Eng. Rm. having switches to groups A. B. C. D. E. F. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 8 Way in Fore & Aft space
6 Way in Engine Room 4 Way in Wireless Room 9 Way in Engine Room
7 - in Fore Aft

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 25 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>Navigational</u>	<u>25</u> lights each of <u>100</u> candle power requiring a total current of <u>15</u> Amperes
B <u>Fore & Aft</u>	<u>50</u> lights each of <u>100</u> candle power requiring a total current of <u>34.8</u> Amperes
C <u>Engine Room</u>	<u>71</u> lights each of <u>100</u> candle power requiring a total current of <u>42.6</u> Amperes
D <u>Wireless</u>	lights each of <u>100</u> candle power requiring a total current of <u>1.5</u> Amperes
E <u>Progen</u>	lights each of <u>100</u> candle power requiring a total current of <u>1.2</u> Amperes
<u>2</u> Mast head light, with <u>1</u> lamp each, of <u>16</u>	candle power requiring a total current of <u>1.2</u> Amperes
<u>2</u> Side light, with <u>1</u> lamp each, of <u>1 x 32, 1 x 50</u>	candle power requiring a total current of <u>2.95</u> Amperes
<u>2</u> Cargo lights of <u>8 x 50</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 Whulhouse

DESCRIPTION OF CABLES.

Main cable carrying <u>250</u> Amperes, comprised of <u>37</u> wires, each <u>.092</u> S.W.G. diameter, <u>.13</u> square inches total sectional area
Branch cables carrying <u>42.6</u> Amperes, comprised of <u>37</u> wires, each <u>.072</u> S.W.G. diameter, <u>.15</u> square inches total sectional area
Branch cables carrying <u>34.8</u> Amperes, comprised of <u>19</u> wires, each <u>.17</u> S.W.G. diameter, <u>.046</u> square inches total sectional area
Leads to lamps carrying <u>6</u> Amperes, comprised of <u>1</u> wires, each <u>.17</u> S.W.G. diameter, <u>.00246</u> square inches total sectional area
Cargo light cables carrying <u>14</u> Amperes, comprised of <u>Admiralty</u> <u>flex</u> <u>5/16</u> diameter, <u></u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

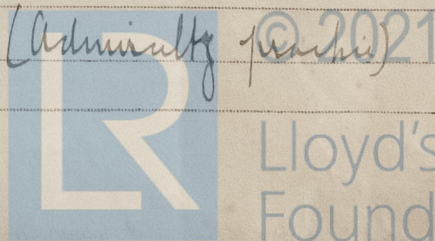
Admiralty Patterson

Joints in cables, how made, insulated, and protected No joint

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 Yes

Are there any joints in or branches from the cable leading from dynamo to main switch board No joint

How are the cables led through the ship, and how protected Lead covered clipped (Admiralty)



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Generally*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered*

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

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 *All beams flushed through bulkhead, &c. Admurally glands*

How are cables carried through decks *Admurally duck tubes*

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

If so, how are they protected *Lead covered*

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 *Admurally fitting*

Where are the main switches and fuses for these lights fitted *Outside of space*

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.I. glands A.P.*

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 *Main 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 compartment *-*

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 *A.P. cable* 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *96 ft.*

Distance between dynamo or electric motors and steering compass *92 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>60</i>	<i>12</i>	<i>8</i>	
<i>6</i>	<i>1</i>	<i>1</i>	

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 *-* degrees on *-* course in the case of the standard compass and *-* degrees on *-* course in the case of the steering compass.

GENERAL REMARKS.

This installation of electric light has been fitted. The materials and workmanship are good. It has been tried under full working conditions & found satisfactory.

Committee's Minute

Builder's Signature. Date *28/7/15*

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