

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5839

Port of *Belfast* Date of First Survey *1898* Date of Last Survey *1904* of Visits *14*
 No. in Reg. Book on the *T.S.S. Namara* Built at *Belfast* Port belonging to *London*
 Owners *Shaw Savill & Albion Coy. Ld.* By whom *Harland & Wolff Ld.* When built *1904*
 Yard No. *365* Electric Light Installation fitted by *M. H. Allen Son & Coy* When fitted *1904*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Engines having Cylinders 7" dia by 6" stroke
2 Dynamos 4 pole compound wound
 Capacity of Dynamo *100* Amperes at *100* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *in thrust recess*
 Position of Main Switch Board *after bulkhead of recess* having switches to groups *A, B, C, D, & E* 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 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits *yes*
 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 *yes*
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *275* arranged in the following groups:—

Group	Number of Lights	Each of	Candle Power	Requiring a total current of	Amperes
A	<i>35</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>24.5</i>
B	<i>44</i>	lights each of	<i>16</i>	candle power, requiring a total current of	<i>26.5</i>
C	<i>23</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>14</i>
D	<i>13</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>8</i>
E	<i>72</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>43</i>
<i>2</i>		Mast head lights with <i>1</i> lamp each of	<i>32</i>	candle power requiring a total current of	<i>1.2</i>
<i>2</i>		Side lights with <i>1</i> lamp each of	<i>32</i>	candle power requiring a total current of	<i>1.2</i>
<i>14</i>		Cargo lights & each of <i>6</i>	<i>16</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 *in Pilot House on Bridge*

DESCRIPTION OF CABLES.

Main cable carrying	<i>100</i> Amperes, comprised of	<i>19</i> wires, each	<i>14</i> L.S.G. diameter, <i>.098</i> square inches total sectional area
Branch cables carrying	<i>48</i> Amperes, comprised of	<i>19</i> wires, each	<i>17</i> L.S.G. diameter, <i>.048</i> square inches total sectional area
Branch cables carrying	<i>29</i> Amperes, comprised of	<i>7</i> wires, each	<i>15</i> L.S.G. diameter, <i>.029</i> square inches total sectional area
Leads to lamps carrying	<i>4.3</i> Amperes, comprised of	<i>7</i> wires, each	<i>22</i> L.S.G. diameter, <i>.0043</i> square inches total sectional area
Cargo light cables carrying	<i>3.6</i> Amperes, comprised of	<i>145</i> wires, each	<i>38</i> L.S.G. diameter, <i>.0042</i> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is covered with one layer pure Para rubber, then two layers vulcanizing rubber, the whole vulcanized together & finally taped & braided. Wires in machinery spaces, after vulcanizing, are lead covered, served & spirally armoured with *9.1* wires

Joints in cables, how made, insulated, and protected

Thoroughly soldered, insulated with two layers pure rubber tape & one layer black tape & varnished

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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*

How are the cables led through the ship, and how protected *in strong wood casing & on cattle deck the casing is run inside the fore & aft stringer*

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 covered

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat none near undue heat

What special protection has been provided for the cables near boiler casings } lead covered, served & spirally ar

What special protection has been provided for the cables in engine room } moured with galvanizd iron wire

How are cables carried through beams in fibre ferrules through bulkheads, &c. in fibre ferrules

How are cables carried through decks in G.I. pipes bushed with fibre "WT" in W.T. glands with brass nuts

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage in cable deck

If so, how are they protected casing is run in fore & aft stiffener

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 —

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 screwed to yoke of magnets

How are the returns from the lamps connected to the hull soldered to 3/8" brass runner

Are all the joints with the hull in accessible positions yes

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 a voltmeter and two amperemeters fixed on main switchboard

The copper used is guaranteed to have a conductivity of 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 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 **W. H. ALLEN, SON & CO. LTD**

C. P. Hunter

Electrical Engineers

Date 16. 12. 04

COMPASSES.

Distance between dynamo or electric motors and standard compass 154 feet

Distance between dynamo or electric motors and steering compass 152 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>29</u> Amperes <u>24</u> feet from standard compass	<u>20</u> feet from steering compass
A cable carrying <u>the above double wire</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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

C. P. Hunter

Builder's Signature.

Date 20th December 1904.

GENERAL REMARKS.

This installation, in my opinion, is of good description throughout, and has been fitted in accordance with the Rules.

R. J. Beveridge

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

Committee's Minute

It is submitted that this installation appears to meet the requirements of the Rules

Lloyd's Register Foundation

23. 12. 04

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.