

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5498

Port of *Belfast* Date of First Survey *4 Aug* Date of Last Survey *14 Oct* No. of Visits *8*
 No. in Reg. Book *P.S. Cards* Port belonging to *London*
 Built at *Belfast* By whom *Harland & Wolff L.* When built *1904*
 Owners *Royal Mail Steam Pk. Coy L.* Owners' Address *London*
 Yard No. *363* Electric Light Installation fitted by *W. H. Allen Son & Co* When fitted *1904*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine having cylinder *7" diameter by 6" stroke*
 Dynamo *4 pole, compound wound*
 Capacity of Dynamo *80* Amperes at *110* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *on starting platform, starboard side*
 Position of Main Switch Board *on bulkhead of Engine Room* Switches to groups *A + B + C* 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 *163* arranged in the following groups:—

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	<i>98</i>	<i>16</i>	<i>16</i>	<i>50</i>	<i>50</i>
B	<i>41</i>	<i>16</i>	<i>16</i>	<i>24</i>	<i>24</i>
C	<i>Cargo as below</i>				
D					
E					
2 Mast head lights	<i>1</i>	<i>32</i>	<i>32</i>	<i>2.2</i>	<i>2.2</i>
2 Side lights	<i>1</i>	<i>32</i>	<i>32</i>	<i>2.2</i>	<i>2.2</i>
2 Cargo lights	<i>8 lamps of 16</i>	<i>16</i>	<i>16</i>	<i>incandescent</i>	<i>incandescent</i>

If are lights, what protection is provided against fire, sparks, &c. *—*

Where are the switches controlling the masthead and side lights placed *in Wheelhouse on upper bridge deck.*

DESCRIPTION OF CABLES.

Cable Type	Amperes	Comprised of	Wires	Each	L.S.G. diameter	Square inches total sectional area
Main cable carrying	<i>80</i>	<i>19</i>	<i>15</i>	<i>15</i>	<i>.079</i>	<i>square inches total sectional area</i>
Branch cables carrying	<i>48</i>	<i>19</i>	<i>17</i>	<i>17</i>	<i>.0477</i>	<i>square inches total sectional area</i>
Branch cables carrying	<i>29</i>	<i>7</i>	<i>15</i>	<i>15</i>	<i>.0291</i>	<i>square inches total sectional area</i>
Leads to lamps carrying	<i>4.3</i>	<i>7</i>	<i>22</i>	<i>22</i>	<i>.0043</i>	<i>square inches total sectional area</i>
Cargo light cables carrying	<i>4.3</i>	<i>145</i>	<i>38</i>	<i>38</i>	<i>.0042</i>	<i>square inches total sectional area</i>

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is covered with one layer pure Pare rubber, then two layers vulcanizing rubber, the whole vulcanized together & finally taped & braided. Wires in Machinery spaces, after vulcanizing, are lead covered, used & spirally armoured with G.I. 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 stray wood casing & on deck in galvanized iron pipes*



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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 *on the decks they are drawn into galvanized iron pipes*

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*

What special protection has been provided for the cables in engine room *armoured with G. I. wires*

How are cables carried through beams *in fibre females*

How are cables carried through decks *in G. I. pipes bushed with fibre* *through bulkheads, &c. in fibre females*

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

If so, how are they protected *in strong wood casing*

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 magnet*

How are the returns from the lamps connected to the hull *soldered to 3/4" earth screws*

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 *with* an amperemeter, 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

Electrical Engineers

Date *4.10.04*

COMPASSES.

Distance between dynamo or electric motors and standard compass *96 feet*

Distance between dynamo or electric motors and steering compass *96 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>29</i>	<i>18</i>	<i>17</i>	
A cable carrying <i>The above is double wired</i>			
A cable carrying <i>—</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 *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.

For Hunter & Co. Ltd
A. M. C. Hunter

Builder's Signature.

Date *7th Oct 1904*

GENERAL REMARKS.

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

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

Committee's Minute

It is submitted that this installation appears to be satisfactory.

L Lloyd's Register Foundation
11.10.04

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.